

THE NAVY'S ENERGY & ENVIRONMENTAL MAGAZINE

# Currents

summer 2011

*The Navy's Response to the  
Deepwater Horizon*  
**OIL SPILL**

*SUPSALV Reflects  
on Response Efforts,  
Lessons Learned One Year Later*

*October is  
ENERGY  
AWARENESS  
MONTH!  
See page 34.*

CNO Environmental Awards Recognize  
Exceptional Stewardship  
Seabees Jump In to Help Save Pilot Whales  
NHB Environmental Stewardship Stretches  
from Local to Global



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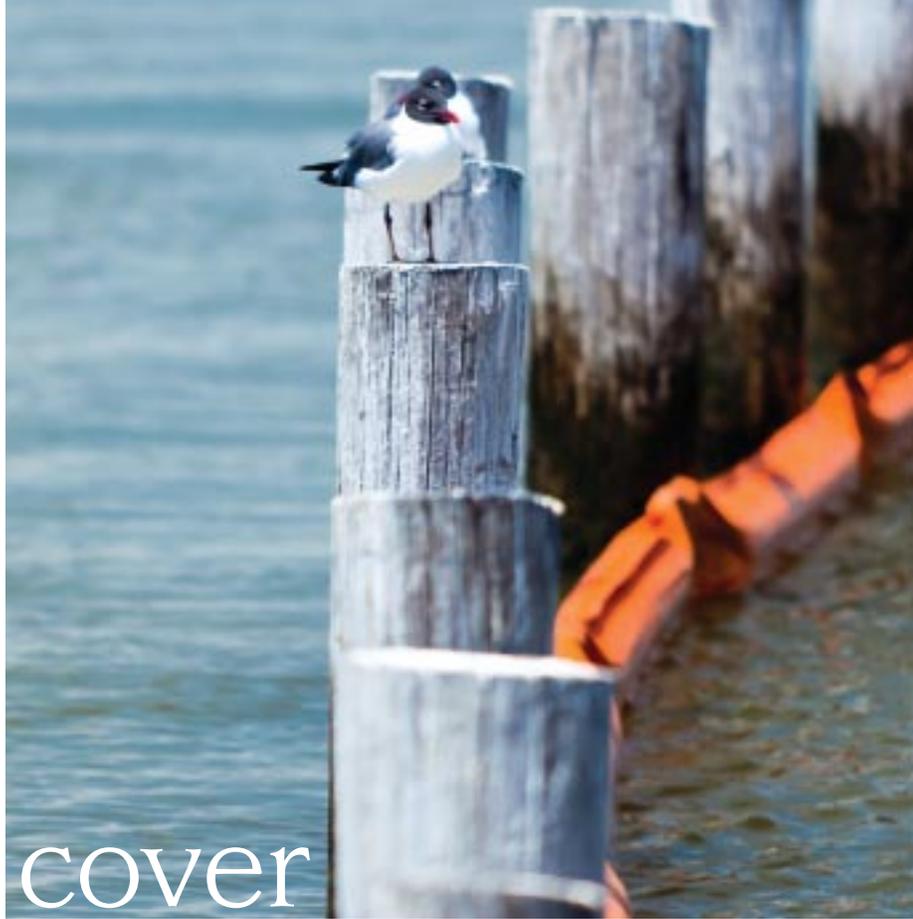
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# cover

One year after the catastrophic oil spill that resulted from the explosion of the Deepwater Horizon mobile offshore drilling unit, personnel from Naval Sea Systems Command's Supervisor of Salvage and Diving reflect on their response efforts, focus on lessons learned and now maintain an enhanced posture for future spill response operations.



## The Navy's Response to the Deepwater Horizon Oil Spill

SUPSALV Reflects on Response Efforts, Lessons Learned One Year Later

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This magazine is an authorized publication for members of the Department of Defense. Statements made in the N45 Outlook column reflect the official environmental policy of the Navy. The contents in the remainder of the magazine are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the United States Navy. Inclusion of any product or service in any *Currents* feature article does not constitute an endorsement by the Navy. The Navy encourages all readers to check with the appropriate supervising authority prior to using any product or service mentioned in the magazine.

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## Striving for Efficiency, Aligned for Success

**WELCOME TO THE** summer 2011 issue of *Currents*. There is a lot going on at N45 right now, and I'd like to briefly share some highlights with you.

As I write this, our office has been in the Pentagon for just over a month, having relocated from our Crystal City offices in late April. As we orient ourselves to this new working environment, I am excited about the improvements I can already see in our workflow. By virtue of our closer proximity to N4 and the fact that the N45 staff is now co-located with N40 (Logistics Planning & Innovation), N41 (Supply, Ordnance & Logistics Operations), N43 (Fleet Readiness), and N46 (Ashore Readiness), our teams are benefitting from quicker visibility on energy, environmental, and sustainability issues that impact readiness. Efficiency and alignment of mission objectives are vital for any organization, and I believe this move is helping us to be more efficient and better aligned as we continue to seek solutions for enhanced combat capability and grapple with complex issues related to energy and the environment.

some of the Navy's initiatives that are making strides to reduce that dependence. Tests of energy-saving technologies such as foul-release hull and propeller coatings, hydrodynamic stern flaps, and solid state



LED (light-emitting diode) lighting are currently underway aboard our surface ships. Naval Maritime Forecast Centers in Norfolk and Pearl Harbor are also testing a "smart voyage planning decision aid" system to improve fleet fuel efficiency and tracking and avoid weather related hazards to safe navigation. Finally, a hybrid electric drive propulsion system is being developed for Arleigh Burke class (DDG-51) destroyers. This proof-of-concept system is scheduled for demonstration at sea in 2012 aboard the USS Truxtun (DDG-103). Once fully

### In the coming months, we will test biofuels in engines for the V-22 Osprey, AV-8B Harrier, EA-6B Prowler, and Self-Defense Test Ship.

This past March, in a speech at Georgetown University, President Obama mentioned his administration's interest in having the Navy and other federal agencies work jointly with private industry to create advanced biofuels that are viable for commercial use. Over the past 18 months, the Navy has successfully tested "drop-in replacement" biofuel blends in the Green Hornet (F/A-18), an MH-60S helicopter, an experimental riverine command boat, and shipboard gas turbine engines. In the coming months, we will test biofuels in engines for the V-22 Osprey, AV-8B Harrier, EA-6B Prowler, and Self-Defense Test Ship. All of these initiatives require robust coordination with industry, so we continue to build effective business relationships and seek new ones to that end.

When the Secretary of the Navy (SECNAV) spoke at the Advanced Research Projects Agency – Energy (ARPA-E) Energy Innovation Summit at National Harbor, MD, also in March, he discussed the strategic vulnerabilities that arise from our nation's dependence on petroleum and outlined

implemented, the system is expected to save at least 8,500 barrels of fuel annually per ship.

We continue making progress on environmental planning and permitting for our at-sea training and testing. With the Record of Decision for the Gulf of Alaska issued in May, we have completed the first round of planning for 12 of 14 range areas. Now only the Keyport Range Complex and the Silver Strand Training Complex remain "on the radar" to complete for Phase I. As that work proceeds, we are developing our approach for Phase II. During our Phase II planning, we will create efficiencies by merging nearby and overlapping geographic areas for environmental planning purposes. This will consolidate the current study areas for which we produce Environmental Impact Statements from 14 down to five. We will also integrate environmental planning for our research, development, testing and evaluation (RDT&E) and maintenance with our training activities to a much greater extent than we did in Phase I. With these activities covered under the same

environmental planning documents, Navy and the National Marine Fisheries Service (NMFS) will have the opportunity to more efficiently evaluate the full spectrum of Navy actions that have the potential to affect the environment. In addition, based on new, Navy-funded research, the Navy and NMFS are working to refine the threshold criteria used to estimate the numbers of marine mammals that may be affected by Navy activities.

In recent months, my office has been analyzing current practices for earlier integration of energy and environ-

and a link to a Miami Herald story at <http://greenfleet.dodlive.mil/environment> in the Environment News Highlights section). Twenty whales stranded for unknown reasons, and 12 of them tragically died, but eight were saved through the efforts of local Navy, NMFS, and community volunteers. As we often say in the Navy, we may celebrate Earth Day in April, but in practice, every day is Earth Day. We take aggressive steps to protect our planet daily, both for national security and from a “natural security” standpoint.



## Early integration can better influence material solutions as they relate to costs, environmental risk, schedules, and fleet readiness.

mental considerations into the acquisition process. In cooperation with the Deputy Assistant Secretary of the Navy (Environment) and Deputy Assistant Secretary of the Navy (Energy) staff, we are providing expertise to Program Executive Offices and other acquisition community members regarding energy and environmental requirements and regulatory trends that may impact future design requirements. We are also sharing key information about SECNAV energy goals to ensure that energy and environmental factors are considered early in the acquisition process. Early integration can better influence material solutions as they relate to costs, environmental risk, schedules, and fleet readiness.

The Navy and the nation celebrated Earth Day this past spring on and around April 22. Under the general theme of “Partnering for a Greener Future,” commands worldwide participated in over 100 Earth Day-related events and activities this year. My office released an Earth Day video podcast—our first—that was available for viewing on Navy.mil, YouTube, the Navy’s Green Fleet web site, and our social media pages, providing background on Earth Day and stressing the Navy-wide culture change that will be needed for energy to achieve its full potential as an enabler of combat capability. You can still view it this podcast at [http://www.navy.mil/search/display.asp?story\\_id=59876](http://www.navy.mil/search/display.asp?story_id=59876).

In the spirit of Earth Day, Navy volunteers from Boca Chica Naval Air Station helped marine mammal experts keep pilot whales alive after the whales stranded off Cudjoe Key, FL on 5 May, just two weeks after Earth Day (See our article entitled “Seabees Jump In to Help Save Pilot Whales: Military Training an Asset in Rescue Effort” in this issue of *Currents*

The Navy continues to support the President’s National Ocean Council (NOC) at many levels, providing expertise on national security issues, international law, biodiversity and ecosystems-based management, marine spatial planning, marine infrastructure, issues related to climate change adaptation, and public outreach. Currently, the NOC is coordinating a series of regional listening sessions to inform people about the National Ocean Policy and obtain public input on priorities and draft strategies for protecting the ocean, coasts, and Great Lakes. On behalf of the Office of the Secretary of Defense, the Navy hosted two of these sessions in June, one in Washington, D.C. (9 June) and one in Jacksonville, FL (15 June). Our office also hosted a roundtable discussion on the NOC with representatives from Navy commands and several environmental non-governmental organizations on 15 April. The lively discussion was valuable for sharing information about the topic and building positive dialogue. More roundtables will follow.

Finally, I want to take a moment to congratulate the winners of the FY 2010 Chief of Naval Operations Environmental Awards. These installations, ships, teams, and individuals have met the mission, and at the same time accomplished remarkable things for the environment. To each winner, I offer my personal and professional thanks for all you do.

And to all *Currents* readers, thanks for your continued interest in the Navy’s energy and environmental initiatives. ⚓

Rear Admiral Philip H. Cullom  
Director, Energy and Environmental Readiness

*The Navy's Response to the*  
Deepwater Horizon  
**OIL SPILL**

*SUPSALV Reflects on Response Efforts,  
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**O**ne year after the catastrophic oil spill that resulted from the explosion of the Deepwater Horizon mobile offshore drilling unit, personnel from Naval Sea Systems Command's Supervisor of Salvage and Diving (SUPSALV) reflect on their response efforts, focus on lessons learned and now maintain an enhanced posture for future spill response operations.



*Within four hours* of the request for resources, trucks loaded with SUPSALV's oil spill response equipment were en route to the Gulf Coast.

On 20 April 2010, Deepwater Horizon exploded and caught fire in the Gulf of Mexico during well completion operations. Five days later, it was discovered that the well continued to leak significant amounts of oil and the U.S. Coast Guard (USCG) formally requested support from SUPSALV. SUPSALV is authorized to provide this pollution response support in accordance with an Inter-Agency Agreement for mutual oil-spill and

salvage assistance between the USCG and the U.S. Navy. SUPSALV capabilities include technical, operational, and emergency support in the disciplines of marine salvage, pollution abatement, diving, diving system certification, and underwater ship husbandry, and SUPSALV maintains a network of warehouses worldwide that store and maintain equipment to respond to these mission assignments.



On 21 April 2010, firefighting vessels attempt to control flames on the Deepwater Horizon rig after the explosion that killed 11 workers. The rig sank the following day.



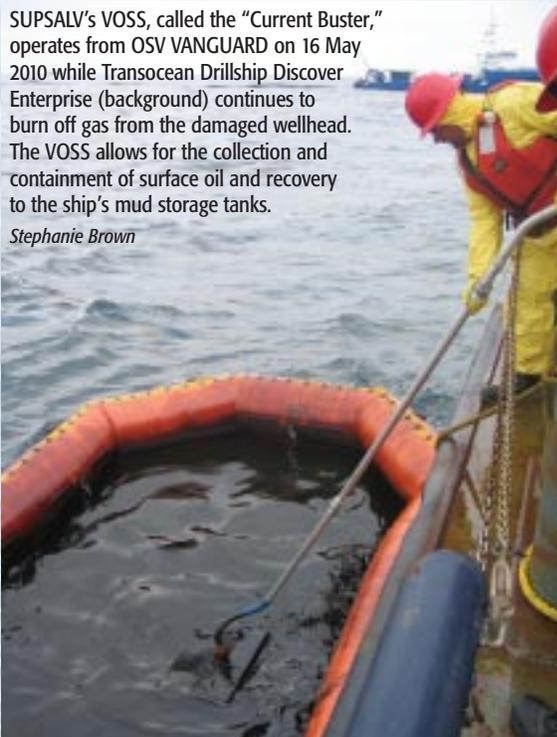
The first oil sighted by SUPSALV responders during the transit to the source of the spill to commence skimming operations.

*Stephanie Brown*

Within four hours of the request for resources, trucks loaded with SUPSALV's oil spill response (OSR) equipment were en route to the Gulf Coast, the first trucks arriving before the spill was declared a "Spill of National Significance" (SONS). By the middle of May 2010, SUPSALV had shipped more than 100 truckloads of equipment from pre-positioned warehouses in Virginia, California, and Alaska. The gear included 96,000 feet of oil containment boom and twenty-three oil skimming systems that were eventually deployed from nine sites from Texas to Florida in support of the clean-up efforts being led by the USCG. Deployment, operation, and management of SUPSALV equipment required more than 130 personnel and four contracted Offshore Supply Vessels (OSV) at the peak of the response.

SUPSALV's VOSS, called the "Current Buster," operates from OSV VANGUARD on 16 May 2010 while Transocean Drillship Discover Enterprise (background) continues to burn off gas from the damaged wellhead. The VOSS allows for the collection and containment of surface oil and recovery to the ship's mud storage tanks.

*Stephanie Brown*



## *U.S. Navy Deepwater Horizon Oil Spill Response 2010*

- Rig explodes 50 miles offshore. — 20 April
- Rig sinks in 4,900 feet of seawater. — 22 April
- USCG requests SUPSALV. — 27 April
- SUPSALV equipment arrives in Gulf. — 29 April
- Declared "Spill of National Significance." SUPSALV deploys first boom offshore. — 30 April
- CNO visits Gulf. — 04 May
- SUPSALV's Alaska equipment requested. — 11 May
- First OSV with SUPSALV skimmers arrive at source and begin recovering oil. — 16 May
- Second and third OSVs with SUPSALV skimmers deployed offshore to source. — 25 May
- SUPSALV's near-shore skimmers deployed, recovering oil across nine locations in Gulf Region. — 08 June
- Final SUPSALV protective boom laid, totaling 63,200 feet across the Gulf Region. — 09 June
- BP installs capping stack, halting leak from well. — 15 July
- Demobilization of SUPSALV's offshore skimmers begins. — 29 July
- Demobilization of SUPSALV's near-shore skimmers begins. — 16 August
- First return shipment of equipment. — 13 September
- Last equipment completes decontamination. Navy issues final situational report. — 20 September
- Last Navy personnel and equipment depart Gulf Region. — 04 October

Except for evacuations for two tropical storms, booming operations and near/offshore skimming was continuous from late April to August.

This also included one Senior Undersea Engineer at the British Petroleum (BP) Engineering Crisis Center in Houston, TX where the well-containment strategies and methods were developed. Though SUPSALV's resources were strategically divided among multiple locations to provide assistance to affected areas, centralized staging and management were performed at the Mississippi State Dock in Gulfport, MS.

SUPSALV booming operations, near shore skimming, and offshore Vessel of Opportunity Skimming System (VOSS) were carried out in Florida, Alabama, Mississippi, and Louisiana, as well as in the area of the leaking well itself. The booming operations mainly used 42-inch boom, typically anchored by 500 or 1,000 pound anchors with 4,500 pounds of chain or sometimes moored to piles or oil rigs. Some smaller boom was also used. The near shore skimming was conducted with 18 MARCO Class V systems using two boats each, towing boom in a "V" configuration and pumping to collection

bladders. To reach the oil past the barrier islands, many of these systems were operated from barges 10 to 20 miles offshore. Offshore VOSS skimming was done from the chartered OSVs. Except for evacuations for two tropical storms, booming operations and near/offshore skimming was continuous from late April to August. For the responders, conditions were often austere and trying.



The Marco Class XI skimmer system was deployed near the source of the spill along with the two other vessels outfitted with Current Busters.  
*Calvin Scott*



The Navy's equipment staging area and operations center at the State Docks in Gulfport, MS.

*Allen Gardner*

*U.S. Navy Assets* Deployed to the Gulf  
(as of 31 July 2010)

- 96,000 feet of boom
- 18 near-shore skimmers
- 37 in-shore skimmers
- 5 offshore skimmers
- More than 300 personnel
- More than 200 truckloads of support equipment



A satellite image of the oil slick off the Mississippi delta (24 May 2010).

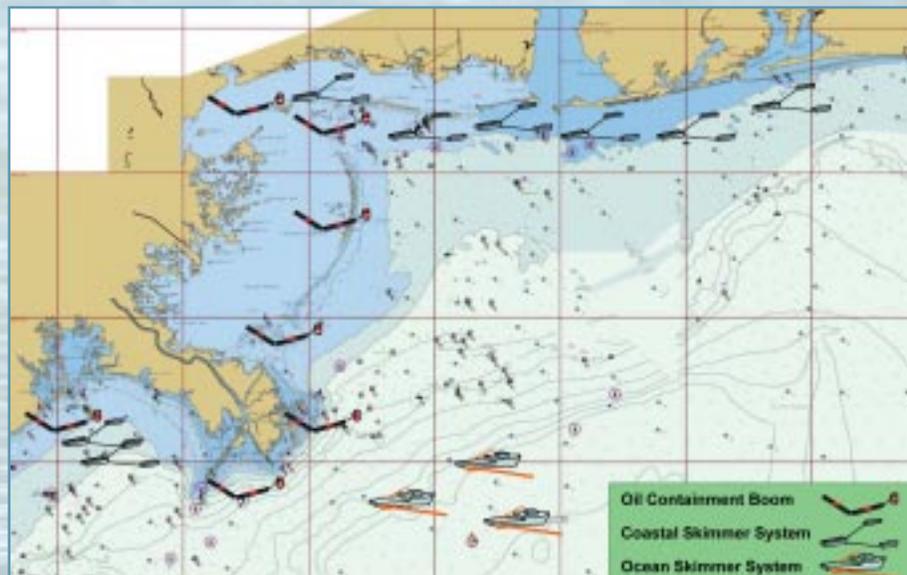
In mid-June 2010, Commander, Navy Installations Command (CNIC) was directed to mobilize their excess OSR resources, which are owned and maintained for response to Navy facility spills. The CNIC oil spill response assets were launched from their various home bases, which included every region in the Continental United States (CONUS), to the Gulf region to provide additional support to the federal response efforts. These assets totaled 37 in-shore skimmer systems, four Harbor Buster skimmer systems, and 35 utility boats. The utility boats were used in conjunction with the skimmers, which were also staged at the Mississippi State Dock to ensure one coherent U.S. Navy staging area co-located with Navy Command and Control. Over 200 personnel from the different CONUS U.S. Navy regions were also mobilized on a rotational basis to operate and manage this equipment throughout the duration of the spill.

Though the CNIC responders were not activated until later in the response and were only operating in limited near-shore areas, they were still responsible for cleaning up approximately 4,200 gallons of the oil.

In late September 2010, the USCG Office of Investigation and Casualty Analysis requested detailed video inspection of the sunken Deepwater Horizon oilrig debris field to assist in the USCG/Department of Justice (DOJ) investigation of the accident. SUPSALV called in its Deep Ocean

Deployment of SUPSALV's oil response equipment across the Gulf Region (16 June 2010).

*Don Fegley*



## The Navy's presence in the Gulf accounted for the skimming, collection and disposition of approximately *one million gallons of oil.*

Search and Recovery capability and deployed its Deep Drone Remotely Operated Vehicle (ROV) with an incorporated XBOT (mini ROV) to conduct 11 dives from 28 September to 3 October 2010, logging 74 hours of total bottom time.

The Navy's presence in the Gulf spanned the period of April through October 2010 and accounted for the

skimming, collection, and disposition of approximately one million gallons of oil and the provision of a significant amount of technical and engineering support to response efforts. At the peak of recovery operations, SUPSALV's skimmers (near-shore and offshore) collected more than 1,600 barrels in a single day. Though SUPSALV's response teams were in an excellent state of readiness due to their rigorous equip-

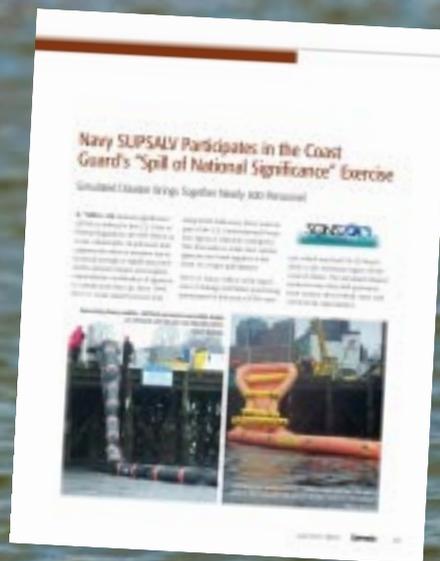
ment maintenance schedule and regular hands-on training events, the magnitude and duration of this spill response was unprecedented for the Navy's oil spill response community, the USCG, and the nation.

"This was a community-wide effort," says CAPT Keenan, U.S. Navy Supervisor of Salvage. "The assistance we received from the Fleet, both active and reserve, was critical. It not only allowed us to maintain our support to the U.S. Coast Guard at the highest possible level, but also enabled SUPSALV to continue meeting our other worldwide salvage and diving responsibilities."

In retrospect, the Navy's efforts to support the national Deepwater Horizon incident response were very effective, but remained demanding to the end. The incident illuminated coordination and communication challenges that arise when inte-

### For More *Insights*

**F**or more insights into SUPSALV's preparations for SONS, read our article entitled "Navy SUPSALV Participates in the Coast Guard's "Spill of National Significance" Exercise: Simulated Disaster Brings Together Nearly 600 Personnel" in the summer 2010 issue of *Currents*. The *Currents* archive from our fall 2010 and previous issues can still be found on the Naval Air Systems Command's environmental web site at [www.enviro-navair.navy.mil/currents](http://www.enviro-navair.navy.mil/currents). Our more recent archive is now housed at *Currents'* new home on the Internet—the Department of the Navy's new Energy, Environment and Climate Change web site—at <http://greenfleet.dodlive.mil/currents-magazine>.



Oil recovered with one of SUPSALV's Marco Class V skimmer drops off the sorbent belt.



The sun rises over the Transocean Drillship Discover Enterprise near the site of the Deepwater Horizon sinking, starting another long day of skimming operations for the SUPSALV team.

*Stephanie Brown*

grating with other federal agencies, as well as with state and local governments during emergency operations. Because the spill was designated a SONS event in accordance with Section 300.323 of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), the typical roles and relationships among DoD, other federal agencies, and even within the Navy didn't always apply. Multiple Incident Command Posts (ICP) required the Navy to work directly for the Unified Area Command for resource allocation and the individual ICPs for operations.

Sometimes communication issues extended into technical arenas, and that is where the Navy spill response community finds itself better prepared for future operations. Due to the multi-state involvement and spread of affected areas, coordinating booming and near shore skimming opera-



The dense debris often encountered offshore posed a challenge during oil skimming operations.

*Rex Avila*

BP contractors wipe down a Harbor Buster from Naval Station Mayport before steam-cleaning it in the decontamination process at Naval Air Station Pensacola (30 June 2010).  
*Mass Communications Specialist Petty Officer 1st Class Monica R. Nelson*

In retrospect, the Navy's efforts to support the national Deepwater Horizon incident response were very effective, but remained *demanding to the end.*

tions were some of the challenges facing the spill response team. Booming strategies were often developed that placed boom across high current areas in a barrier mode. The boom used in this application was soon destroyed and, had it lasted, would still have been ineffective due to entrainment of any oil it met. (Note: Entrainment happens when oil escapes under a boom due to the excessive flow of the surrounding waters.) In this situation, a “deflect and collect” mode would have been far more successful. These conflicts also included the affected states competing for assets and were even referred to as “Boom Wars” in the National Commission Report to the President.

To counteract these types of problems, SUPSALV developed an official Concept of Operations for their equipment, which provides upfront descriptions of how to effectively employ the assets to those who may otherwise

SUPSALV responders wrestle to pull shore boom up near the beach line as they work to protect Breton Island, LA from the inbound oil slick.

*Mike Pricol*



The Chief of Naval Operations, Admiral Gary Roughead (second from right) and his staff tour the Gulfport Operations Center in May 2010 for a firsthand look at the Navy's response.

*Allen Gardner*

Navy civilians conduct skimming operations in southeast Louisiana.

*Mass Communication Specialist 2nd Class  
Jordan J. Miller*



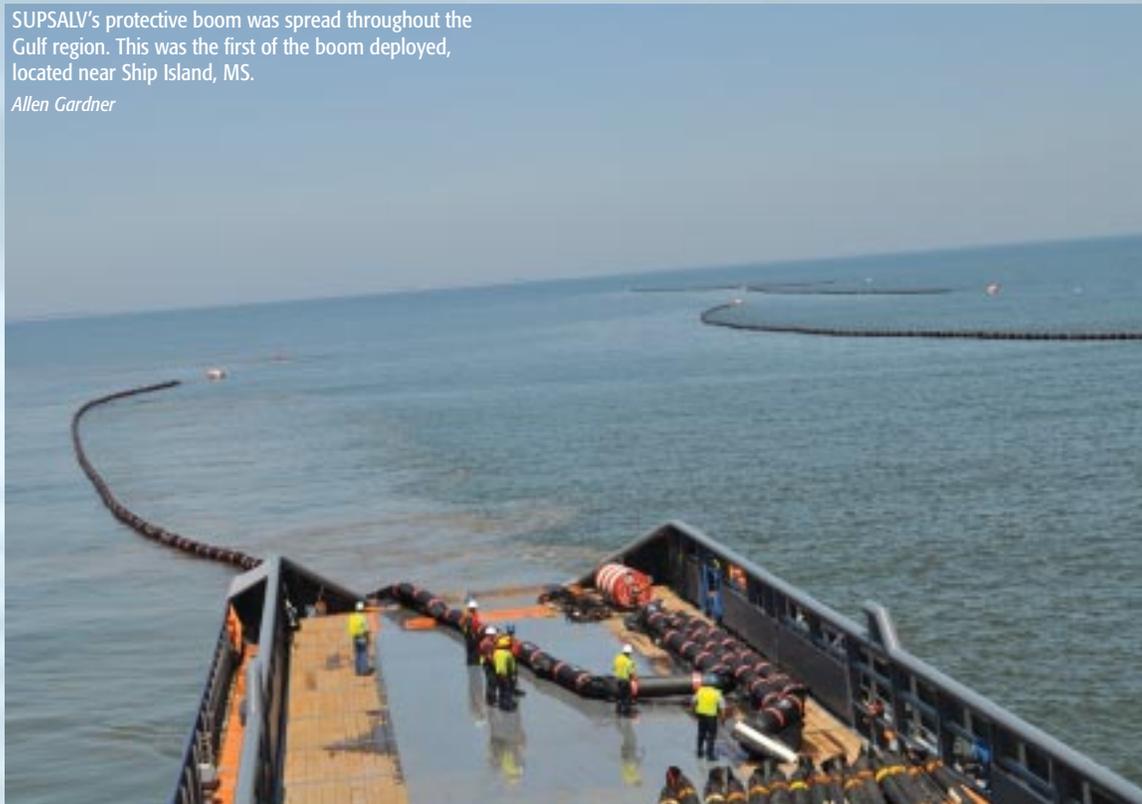
be unfamiliar with the equipment, yet find themselves responsible for assigning its use.

Due to the nature of their designated mission assignment, deploying CNIC in-shore skimmers away from their parent command will remain challenging in any major response. This equipment has been procured without significant consideration for over-the-road or fly-away capability because they normally are only required to operate at the facility where they reside. However, during Deepwater Horizon, CNIC responders gained significant experience supporting their equipment in the field and learned valuable lessons.

Now that the entire SUPSALV and CNIC equipment inventory is back in its respective warehouses and is being returned to its original state of readiness, numerous

SUPSALV's protective boom was spread throughout the Gulf region. This was the first of the boom deployed, located near Ship Island, MS.

*Allen Gardner*

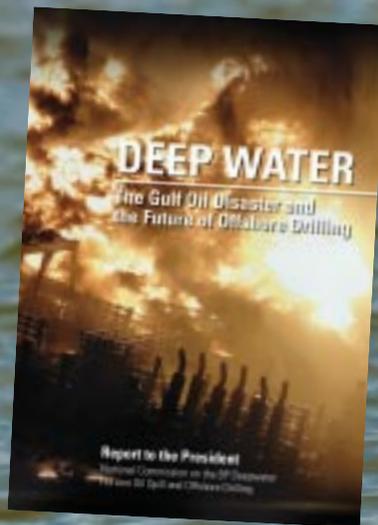


equipment modifications and improvements have been made as a result of the lessons learned during operations in the Gulf of Mexico. Because of the extreme duration of the cleanup efforts, operators put the equipment to the test and discovered innovative ways to overcome

mechanical and logistical problems. Real emergency response operations are the best venue to train and tailor the necessary skills. This disaster was a great tragedy for the Gulf Region and those families who lost loved ones. And the Navy spill response community is working to incorporate the lessons learned into programmatic changes that will allow it to maintain an even better posture to meet future calls for support. ⚓

## For More *Insights*

For more insights into the Report to the President by the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, entitled “DEEPWATER: The Gulf Oil Disaster and the Future of Offshore Drilling,” visit <http://www.oilspillcommission.gov/final-report>.



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# CNO Environmental Awards Recognize Exceptional Stewardship

## Efforts of Fiscal Year 2010 Winners Highlight the Ranges of the Navy's Commitment

**WINNERS OF THE** annual Chief of Naval Operations (CNO) Environmental Awards program have been announced for Fiscal Year (FY) 2010. The awards recognize people, ships, and installations for their exceptional environmental stewardship.

The competition categories for FY 2010 included natural resources conservation (large installation), cultural resources management (installation), environmental quality (industrial installation, overseas installation, and small ship), sustainability (non-industrial installation and individual/team), environmental restoration (installation), environmental excellence in weapon system acquisition, small program, (individual/team), and environmental planning (team).

Nominations were judged on accomplishments from 1 October 2008 through 30 September 2010. The CNO award winners were honored at a 7 June 2011 ceremony at the United States Navy Memorial in Washington, D.C. Accomplishments of the FY 2010 CNO environmental award winners are highlighted here:

### Natural Resources Conservation

The purpose of this award is to recognize efforts to promote the conservation of natural resources, including the identification, protection, and restoration of biological resources and habitats; the sound management and use of the land and its resources; and the promotion of the conservation ethic.

#### Large Installation

##### Naval Air Station Lemoore, California

The natural resources team at Naval Air Station (NAS) Lemoore is responsible for a wide array of resource related tasks, including managing natural resource projects, real estate leasing, pest management, cultural resources coordination, implementation of the agricultural outlease program, National Environmental Policy Act (NEPA) compliance, implementation of the Bird Aircraft Strike Hazard (BASH) program, and serving as environmental resource planning technical advisors to the commanding officer. During the reporting period, the natural resources team maintained all of its regulatory compliance responsibilities, developed and implemented a number of environmental

projects, including wetland construction, sensitive species management, and groundwater monitoring, and provided professional expertise towards alleviating a water shortage situation that befell the installation during a time of extreme drought. Finally, the team was instrumental in preventing encroachment around NAS Lemoore by coordinating efforts by federal, state, municipal agencies, and various non-governmental organizations to identify strategies suitable for agricultural and conservation easement collaboration and planning.

##### Naval Base Coronado, California

With the second highest concentration of federally listed species on a Department of the Navy installation and the fourth highest concentration on a Department of Defense (DoD) installation, Naval Base Coronado's (NBC) conservation program is based on an ecosystem management approach, which includes comprehensive management of 22 federally listed species and their habitats. NBC boasts a San Clemente Island fox management and natural resource compliance and outreach program that set the standard for other federal



The San Clemente Island fox was recently listed by the U.S. Fish and Wildlife Service on four of the eight Channel Islands, but it was not listed on San Clemente Island due to effective management by the Navy.

agencies and private institutions. Both installation personnel and surrounding communities benefit from NBC's support of ecosystem balance and biodiversity through maintained or increased environmental quality (e.g., water quality), support of transient natural resources (i.e., migratory birds) that have value off the installation, and the continued or improved ability of the land to withstand both natural and man-made disturbances, which is critical to military and civil preparedness and overall security.

#### Naval Base Ventura County, California

The environmental division at Naval Base Ventura County (NBVC) manages a natural resources program that balances stewardship of its extensive natural resources with the critical mission as a major aviation shore command and Naval Construction Force mobilization base. NBVC's Environmental Management System (EMS) is a critical component to the management of its successes. Some of the major achievements of the program during FY 2009 and FY 2010 included the removal of feral cats on San Nicolas Island to restore seabird nesting colonies and the

initiation of a program to re-establish eelgrass in Mugu Lagoon. The three facilities comprising NBVC are home to seven federally listed species and two state listed species. Thus, the natural resources program has focused the majority of its management activities on the effective oversight of these threatened and endangered species, as well as marine mammals and other

protected species and their associated habitats.

#### Cultural Resources Management

The purpose of this award is to recognize efforts to promote the management of cultural resources, including the identification, protection, and restoration of historical buildings, structures, and archaeological sites;



The federally endangered salt marsh bird's beak is specialized to grow only in salt marshes of southern California coastal estuaries. Each year, NBVC's natural resources conservation team maps the distribution of this bird to determine population status and to avoid impacts from mission and recreational activities.

and the promotion of the cultural resources conservation ethic.

**Installation**

**Naval Air Station Fallon, Nevada**

NAS Fallon's full time archaeologist is responsible for the management of all its cultural resources, including archaeological sites, historic sites, transportation routes, rural landscapes, and historic buildings and structures on the installation. About 18 percent of NAS Fallon has been surveyed for archaeological resources and approximately 420 sites have been recorded to date. The installation also manages nearly 200 buildings and structures that date from World War II (WWII) through the Cold War,

as well as several early 20th century ranches. In FY 2010, a comprehensive historic building inventory was conducted, the results of which will be invaluable in the ongoing management of historic buildings and structures. A similar project inventoried several historic ranches. An architectural study of the ranches suggested that the properties are a unique resource and may be part of a historic rural landscape eligible for inclusion in the National Register of Historic Places. Finally, archaeological inventories conducted for ground training and geothermal exploration projects have led to the discovery of over 100 new archaeological sites. Through continuing cooperative efforts with

the Nevada State Historic Preservation Office and the Bureau of Land Management, the NAS Fallon cultural resources program has proven to be an effective historic preservation partner in the state of Nevada.

**Naval Base Guam, Guam**

The cultural resources management program on Naval Base Guam (NBG) oversees more than 2,000 cultural resource projects. Coordinating with the local government and federal and private agencies, the cultural resources management program ensures that NBG remains a leader in its stewardship toward cultural preservation. Accomplishments of the program include preservation of the



The Devore Homesite adobe, constructed in the 1930s, is one of several historic ranch properties managed by NAS Fallon.



These human remains were discovered on Navy property, and were successfully repatriated to the Government of Japan. The cultural resources program at NBG oversees and manages archaeological recovery.

oldest reservoir on Guam, the Maanot Water Reservoir located on NBG Munitions Site; successful repatriation of two Japanese WWII casualties to the Government of Japan, while

another five Japanese WWII casualties are in the process of repatriation; and recovery of two pre-contact Chamorro (indigenous people of the Mariana Islands) burials that are now in the



The photovoltaic panels added to the new Engineering Product Support Facility at FRC East helped to move the project from LEED Silver to LEED Gold certification. These panels provide a clean, renewable energy source for 23 percent of the facility's energy use.

process of analysis and preparation for respectful reburial in consultation with the Guam State Historic Preservation Office.

### Environmental Quality

The purpose of this award is to recognize efforts to ensure mission accomplishment and protection of human health through implementation of environmental management systems in the areas of environmental planning, waste management, and safe drinking water.

### Industrial Installation

#### Fleet Readiness Center East, North Carolina

Fleet Readiness Center (FRC) East's Industrial Environmental Program Division includes air, hazardous waste, solid waste/recycling, and water focus areas. With a commitment to continual improvement, these programs ensure compliance with applicable environmental regulations and seek opportunities to reduce environmental impact while improving fleet readiness. Examples of FRC East's environmental accomplishments include air pollution control, water quality monitoring, water conservation efforts with education programs, diversion of more than five million pounds of recyclable material away from landfills, conservation of over one million gallons of gasoline, reduction of approximately 16 million pounds of greenhouse gases, and construction of its first Leadership in Energy and Environmental Design (LEED) certified project.

#### Naval Submarine Base Kings Bay, Georgia

Naval Submarine Base (NSB) Kings Bay consists of 16,000 acres including 4,000 acres of unspoiled coastal marsh and 10,000 acres of indigenous

wildlife habitat actively managed under their Integrated Natural Resources Management Plan (INRMP). Objectives of NSB Kings Bay's environmental program include complying their mission of supporting the warfighter through a proactive approach towards environmental management and conservation. The degree to which NSB Kings Bay attains these objectives is exemplified by their EMS. NSB Kings Bay's EMS evaluates and implements continual improvements to processes, plans, and equipment, and incorporates environmental management and conservation into planning, decision-making, and business practices. Accomplishments of NSB Kings Bay's environmental program include rare/threatened/endangered species monitoring, erosion and sedimentation control, habitat restora-

tion, and waste minimization, including a 45 percent reduction in hazardous waste, a 25 percent reduction in disposal cost, and a 7.5 million pound reduction in solid waste entering the landfill.

**Naval Weapons Station Seal Beach (including detachments in Corona and Fallbrook, California)**

Naval Weapons Station (NAVWPNSTA) Seal Beach, California and its detachments—located in Corona and Fallbrook, California—provide weapons storage, loading of ready-for-use ordnance, maintenance, weapons systems assessment, and support to ships of the United States Pacific Fleet, U.S. Coast Guard vessels and Marine Corps units stationed afloat and ashore. Natural resources stewardship for approximately 14,000 acres, including numerous endangered and sensitive habitats, has heightened leadership focus on sustainability. NAVWPNSTA Seal



Gopher tortoises are a keystone species on NSB Kings Bay—many other species depend on gopher tortoise burrows for habitat and refuge. The eastern gopher tortoise population is being considered for federal listing as an endangered species. The western gopher tortoise population is currently listed.



Volunteers work during a National Public Lands Day event at NAVWPNSTA Seal Beach, planting native shrubs and flowers at the Seal Beach National Wildlife Refuge at the station. In total, volunteers planted more than 500 shrubs on the installation, providing improved habitat for a wide range of species.

Beach has integrated its EMS program throughout all installation functions, and sustainability goal setting is intertwined with strategic planning. Accomplishments include a reduction of electrical energy consumption by 13.2 percent, a reduction in water usage by 41 percent annually, and partnerships with community organizations and resource partners on a number of volunteer activities, including three National Public Lands Day events, habitat clean-ups, and monthly tours.

### Overseas Installation

#### Commander, Fleet Activities Yokosuka, Japan

As a leader in environmental protection in Japan, Commander, Fleet Activities, Yokosuka (CFAY) partners with U.S. and Japanese officials to meet or exceed stringent U.S. and Japanese government environmental protection standards. With strong support from military and civilian personnel, base residents, and personnel living and working in the cities of Yokosuka, Zushi, and Yokohama, CFAY has successfully developed and maintained partnerships crucial to the success of its environmental program. As the first Navy base in Japan to fully implement an EMS in accordance to the International Organisation for Standardization (ISO) 14001 standard, CFAY has set and met EMS goals, objectives, and targets by developing an effective and robust cross functional team. Dedicated to continuous improvement, CFAY has successfully doubled the amount of material recycled, increased solid waste diversion rate by 45 percent, and reduced the amount of hazardous waste disposed of by 36 percent (over 500,000 pounds annually) since FY 2008. CFAY has also



CFAY gives tours to promote environmental awareness and educate the community on how the Navy protects the environment. In FY 2010, CFAY started providing tours of the newly constructed environmentally friendly cogeneration plant for the general public.

reduced petroleum, oils, and lubricant spills by 85 percent since FY 2009, and successfully integrated the community into environmental management through various outreach events and awareness programs, including cultural and historical resource tours, environ-

mental/safety fairs, base beautification events, and natural resource sustainment events.

#### Navy Region Center Singapore, Singapore

U.S. Navy Region Center, Singapore's (NRCS) mission is to lead and manage the overall coordination of military services in Singapore.



This informational booth was set up on Earth Day 2010 to teach school children about waste reduction and pollution prevention efforts at NRCS.



During Earth Week celebrations at NSA Bahrain, more than 400 personnel from the Coalition forces, Host Nation, and DoD Dependent Schools children participated in the week long activities that included tree planting and base cleanup. Over 65,000 pounds of debris were collected.

In FY 2009, NRCS became the first command in the Navy to achieve EMS conformity with zero deficiencies. With all the checks and balances implemented, the system is constantly finding ways to reduce operational impacts. Examples of the program's achievements include a reduction of energy consumption by 13 percent, a reduction of shore-side hazardous waste disposal by 42 percent in FY 2009 and 49 percent in FY 2010, achievement of a recycling/composting rate of nearly 311 pounds per person per year, and a significant increase in spill response capability.

### U.S. Naval Support Activity Bahrain, Bahrain

As the only permanent frontline shore base in the southwest Asia area of operations, Naval Support Activity (NSA) Bahrain is the epicenter of all support operations in the turbulent Middle East. The environmental team has consistently achieved environmental excellence utilizing scarce resources, and has dedicated their organization to improving environmental quality at NSA Bahrain and surrounding communities. Examples of the team's achievements over the past two years include responding to more than 1,400 service calls supporting 148 U.S. Navy and coalition ships, processing more than 4,000 55-gallon drums of shipboard-

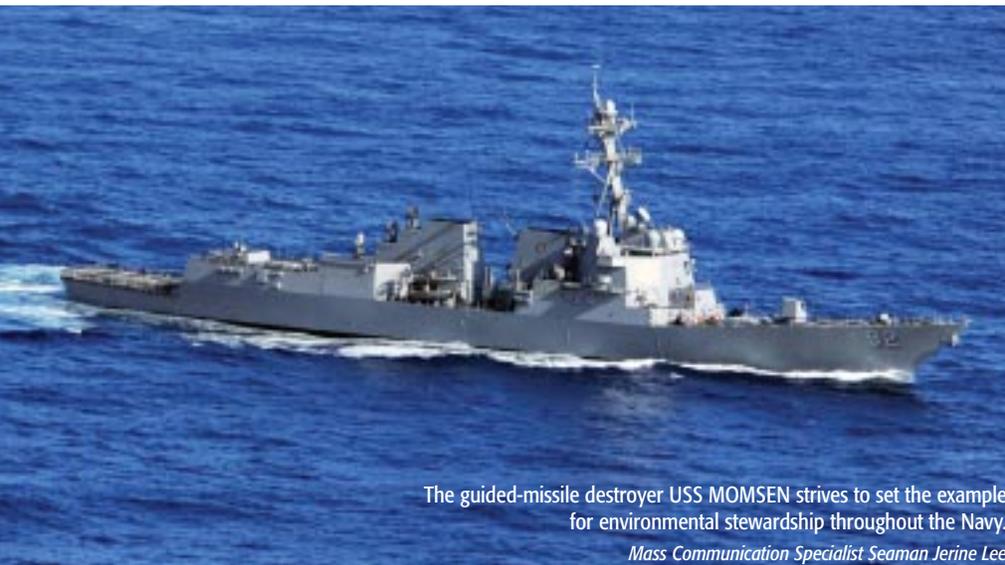
used hazardous materials offloaded in Bahrain and the United Arab Emirates, and diverting an annual average of 1,000 tons of recyclables from the landfill.

### Small Ship

#### USS MOMSEN (DDG 92)

The USS MOMSEN (DDG 92), based out of the Pacific Northwest homeport of Naval Station Everett, Washington, is a proactive custodian of the environment, and strives to set the example for environmental stewardship throughout the Navy. MOMSEN does so by initiating

actions to conserve natural resources, protect historical and cultural properties, and prevent, control, and eliminate discharges that would create pollution. Such actions include restoring the ship's Oil/Water Separator—the primary method of ensuring that liquid discharges are scrubbed of pollutants—to full operation in order to prevent oily waste. MOMSEN also reduced fuel consumption by 500 gallons every hour through “single generator operations,” and by as much as ten percent per day through “drift operations,” which involves securing the main engines and allowing currents to push the ship as required.



The guided-missile destroyer USS MOMSEN strives to set the example for environmental stewardship throughout the Navy.  
*Mass Communication Specialist Seaman Jerine Lee*



A whale tail is spotted from the bridge of the USS STERETT. Marine mammal sightings are logged and identified, and operations are modified as necessary to avoid hurting the animals. The Protective Measures Assessment Protocol (PMAP) software is run prior to any exercise that could affect marine life.

#### USS STERETT (DDG 104)

Based out of San Diego, California, the USS STERETT (DDG 104) is committed to environmental protection and safety, and continually strives to find new and innovative ways to help reduce the Navy's impact on the environment. STERETT's outstanding management and maintenance practices have contributed to many environmental accomplishments, including fuel conservation, marine mammal protection, the successful offloading and onloading of 2,750 hazardous materials items with zero discrepancies, zero accidental releases or ventings of Halon during FY 2010, zero fuel spills during 11 underway refueling operations, and zero refrigerant leaks in 2009 and 2010.

#### USS THACH (FFG 43)

The USS THACH (FFG 43), based out of Naval Base San Diego, California, ensures each crewmember understands their personal environmental safety responsibilities and their duty to protect the oceans they sail upon. THACH's environmental accomplishments include completing 25 at-sea and 18 in-port refueling evolutions without incident or spills, minimizing air emissions and increasing fuel efficiency by maintaining equipment in peak operational condition. The ship also protects marine mammals through the use of the PMAP software prior to any gunnery and sonar exercises to ensure all requirements and protections are satisfied, and managing hazardous material by utilizing the ship's hazardous material inventory and control systems windows, which ensure that only the needed hazardous materials are kept onboard, and all materials used are expended.

#### Sustainability

The purpose of this award is to recognize efforts to prevent or eliminate pollution at the source, including practices that increase efficiency and sustainability in the use of raw materials, energy, water, or other resources.

#### Individual/Team

#### Fleet and Industrial Supply Center Pearl Harbor Environmental Sustainability Team, Hawaii

The Fleet and Industrial Supply Center Pearl Harbor (FISC Pearl) Environmental Sustainability Team, whose



780 Sailors onboard the USS THACH conducted a refueling during the most recent Northern Arabian Gulf deployment. The refueling was a success with no fuel spilled.

LT Jason Jackson, paints a message at one of the 159 storm drains in the FISC Pearl area during Earth Day 2010. The message reads "Dump No Waste— Goes to Pearl Harbor" and serves as a reminder to everyone that Hawaii's fragile water resources need to be protected.



FRCSE recycled more than 3,600 pounds of bottles and cans, 1,800 pounds of newspaper and more than 18,000 pounds of computer and office mix paper in 2010.

members are from FISC Pearl and the Naval Facilities Engineering Command (NAVFAC) Hawaii, identified process changes and technical upgrades to execute Executive Orders, DoD plans and other documents relating to environmental sustainability to shape a starting point for the FISC Pearl sustainability program. This initial two years set the foundation for future successes in reducing energy and water consumption, recycling, eliminating toxic and hazardous waste from the workplace, disposing of electronic products in an acceptable way, and sustainable transportation through alternative fuels and vehicle fleet optimization.

#### Fleet Readiness Center Southeast, Florida

The Fleet Readiness Center Southeast (FRCSE) considers continuous improvement through compliance audits and training as vital to its future and key to mission sustainability. The environmental team attributes its success to adhering to the requirements of ISO standard and developing good relationships with stakeholders. Examples of the environmental team's accomplishments include improved air quality and reduced ground-level ozone (smog) through the use of less toxic solvents and green alternatives of the hazardous air pollutant Toluene, recycled nearly 241 tons of material and saved nearly \$2.73 million through the reuse of JP-5 fuel, and reduced the amount of hazardous waste from FRCSE industrial wastewater treatment plants by reducing point source generation of waste, implementing more cost effective operating procedures for water treatment, and leverage existing capability of the Naval Facilities Public Works Department. This operational change eliminated more than



This E-2C was the first such aircraft to have the entire exterior of the aircraft primed with Deft's non-chrome primer.

600,000 pounds of hazardous waste, provided a disposal cost avoidance of nearly \$480,000, and provided additional energy and maintenance cost savings associated with these operational changes.

**PMA-231 Environment, Safety, and Occupational Health Team, Maryland**

The Naval Air Systems Command (NAVAIR) Program Manager Air (PMA) – 231 Environment, Safety, and Occupational Health (ESOH) team has maintained fleet readiness while dramatically reducing the environmental footprint of the E-2 platform through effective integration of ESOH principles into the development, manufacture, use, maintenance, and disposal of its aircraft systems. The ESOH team works closely with a multi-disciplinary sustainability team consisting of chemical, material, safety, and environmental engineers, and production personnel to provide solutions to process activities with significant environmental benefit. Examples of the ESOH's team's success include implementing smart building management systems, thermostat regulation, and an aggressive light

replacement program at the St. Augustine Manufacturing Center, reducing the E-2D's assembly site energy consumption by 6.4 million kilowatt-hours; substitution of two hazardous material-containing adhesives used on the E-2 platform with non-hazardous

alternatives, eliminating the use of 3,000-square feet of formaldehyde-based and 200-gallons of toluene-based adhesives annually; and implementation of a Halon—a known ozone depleting substance—alternative ahead of schedule, preventing the

retrofit of three aircraft and saving 100-pounds of Halon.

**Non-Industrial Installation**

**Naval Base San Diego, California**

Naval Base San Diego (NBSD) has significantly reduced its impact of operations on the environment. The introduction of new ideas and equipment which reduce waste, capture pollutants, and otherwise mitigate environmental impacts at NBSD has led to regulatory compliance in all areas of NBSD activities. In 2010, NBSD funded and executed numerous projects to reduce water and energy use. These projects are achieving a positive return on investment through reduced grounds contracts and reduced energy consumption. In addition, leading by example to chart the way ahead toward a greener base and environment, NBSD hosted the first Navy



In 2010, NBSD funded and executed numerous photovoltaic projects to reduce energy use. These projects are achieving a positive return on investment through reduced energy consumption.

Region Southwest Environmental Green Summit. Featuring both Navy and private enterprise representatives, the Summit provided a venue to share information on a wide array of conservation, green projects, and Navy-private enterprise partnerships.

**Naval Station Great Lakes, Illinois**

Naval Station Great Lakes is a leader in managing a fleet of green vehicles, using alternative fuels, providing environmentally-friendly laundry services, employing sustainable construction practices, and leading energy efficiency initiatives. These initiatives resulted in a reduction of regulated air emissions by 85 percent, a reduction of energy intensity by 29 percent, an increase of solid waste diversion by 57 percent, and an increase of recycling by 1,107 tons. An effective EMS focused the command's energy, environmental, and mission operator teams on significant environmental aspects and critical objectives. The installation has forged partnerships with external agencies, industry, academia, environ-



The installation of new energy efficient air conditioners at NAVSTA Pearl's Building 1770 is saving more than \$92,000 annually.

mental groups, and the local community to sustain effective environmental stewardship programs, build support for the Navy mission, and facilitate technology transfer. These efforts resulted in substantial pollution reductions, conserved energy and natural resources, and have driven a pursuit of clean energy initiatives to meet future fleet facility needs.

**Naval Station Pearl Harbor, Hawaii**

Naval Station Pearl Harbor (NAVSTA Pearl) is located in the Hawaiian Islands on the island of Oahu. With Hawaii's complete dependence on imported oil for energy generation, energy conservation and alternative energy initiatives have taken on added importance. NAVSTA Pearl has developed an impressive alternative energy and resource conservation program that has implemented several key initiatives. These initiatives, including photovoltaic initiatives, fuel reclamation, hazardous materials substitution, and facility energy audits, will conserve energy and water, provide an annual avoidance of approximately 5,667 barrels of oil and 3,118 tons of CO<sub>2</sub> emissions, create an additional source of fuel, and reduce the Navy's waste oil and hazardous material disposal and procurement costs.



Mark Schultz, environmental director for NAVFAC Midwest, explains to students at North Chicago Community High School about electric vehicles and other environmentally friendly means of transportation used by the Navy during an Environmental Science Olympics community outreach event.

**Environmental Restoration**

The purpose of this award is to recognize efforts to protect human health and the environment by cleaning up

identified DoD sites in a timely, cost-efficient, and responsive manner.

### Installation

#### Hunters Point Naval Shipyard, California

The Navy's mission at the Hunters Point Naval Shipyard, located in San Francisco, California, is to cleanup shipyard contaminants to make the property available for transfer and productive reuse. The Navy operated the 936-acre shipyard from 1939 to 1974, and in 1989 it was designated a superfund site. The Navy uses the U.S. Environmental Protection Agency (EPA) TRIAD concept to streamline data-gathering and decision-making during investigation and cleanup. Innovative cleanup technologies are tested and those deemed most effective are used to address the contamination. The Navy works diligently to involve the regulatory agencies and redevelopment agencies to expedite the restoration. The Navy and regulatory agencies have used time-critical removal actions to remove waste from the Bay shoreline. In addition, the Navy partners with existing community programs, such as Young Community Developers and City Build, to provide vocational training and the opportunity to take part in the shipyard cleanup.

#### Joint Expeditionary Base Little Creek-Fort Story, Virginia

On 1 October 2009, Hampton Roads' first Joint Base, Joint Expeditionary Base Little Creek-Fort Story (JEBLCFS), was established, comprising former Naval Amphibious Base Little Creek and the former Army Garrison at Fort Story. The Navy Environmental Restoration Program (NERP) at JEBLCFS successfully balances the challenge of restoring environmental sites and protecting human health and the environment with the



Excavation activities in the section of Bousch Creek adjacent to the NSN flight line. Excavation was completed from the top of the bank with a long-reach excavator to avoid impacting established vegetation along the banks. The depth of excavation was measured using a man lift located on the top of bank to avoid having workers in the water.

facility's limited space, continued growth, and mission need for usable land. The NERP does so by implementing innovative, site-specific remedial actions. The Navy continually collaborates with representatives of EPA, Virginia Department of Environmental Quality, and other DoD entities to evaluate the needs of the community, the NERP, and the mission, to apply economical, environmentally sound, and sustainable methodologies to issues under examination. These efforts have resulted in over \$2 million cost savings and have made approximately 1,864 acres available for reuse. Other accomplishments include achieving no further action status for 13 sites, establishing remedy in place for two sites, completing an action decision document for two sites, developing a feasibility study at one site, and concluding the Military Munitions Response Program for JEBLC.

#### Naval Station Norfolk and Naval Support Activity Norfolk, Virginia

Naval Station Norfolk (NSN) is the world's largest Naval installation, and

is one of 66 DoD installations located within the Chesapeake Bay watershed, the nation's largest estuary. The Naval Support Activity Norfolk (NSAN) Headquarters Complex is located adjacent to NSN to the south. Due to the size of NSAN and its close proximity to NSN, all installation restoration (IR) sites located at the installation are managed as part of the NSN restoration program. NSN and NSAN achieved an unparalleled partnership among the Navy, EPA, and Virginia Department of Environmental Quality. Throughout the partnering process, site-specific project status updates led to expedited document reviews and approvals, and achievement of major milestones in both Navy Remedy in Place and EPA Installation Construction Completion. This facilitated long term site management strategies that also provided for the beneficial reuse of multiple IR sites at NSN, including over 22 acres of re-usable outdoor recreation space, 1,400 parking spaces on 14 acres, and approximately a quarter of an acre of reusable warehouse space.

### Environmental Excellence in Weapon System Acquisition, Small Program

The purpose of this award is to recognize efforts to incorporate environmental, safety, and occupational health requirements into the weapon system acquisition program's decision-making process.

#### Individual/Team

#### Battle Force Tactical Trainer In-Service Engineering Agent Design Team

Ten obsolete Battle Force Tactical Trainer (BFTT) systems were reutilized at Combat Direction Systems Activity, Dam Neck (CDSA DN) in FY 2010. The BFTT In-Service Engineering Agent (ISEA) design team has incorporated ESOH objectives throughout the product lifecycle. The BFTT systems were processed for reutilization, preventing several hundred pounds of metal from being discarded and saving an estimated 8,500 kilowatt-hours of energy—approximately enough to power an average U.S. residential

household for nine months. Additionally, BFTT ISEA design team's reutilization effort significantly reduced the amount of toxic material introduced with system deployment, decreasing both personnel hazard and the carbon footprint by reducing the amount of power required to operate the system. The training systems are embedded in surface combatant ships to provide combat systems training for Sailors worldwide. The progress made during the award period includes completion of six formal technical reviews, where several ESOH system risks were identified and addressed. Additionally, eight system certification events were conducted that included ESOH risk mitigation, and six instances of concurrence by the Weapon Systems Explosive Safety Review Board for BFTT System Deployment.

### Environmental Planning

The purpose of this award is to recognize outstanding environmental planning for the Navy.



USFF held a public hearing so that Navy officials could explain marine mammal mitigation protection programs to interested community members.

#### Team

#### East Coast Range Complex Environmental Planning Team, Virginia

The U.S. Fleet Forces (USFF) East Coast Range Complex Environmental Planning Team is composed of Navy and contractor personnel with wide-ranging expertise in naval operations, natural resources, and environmental planning and compliance. In order to produce high quality Environmental Impact Statements (EIS) for each of the three east coast range complexes on a compressed schedule, the team had to accurately describe training requirements spanning 100,000 nautical square miles of ocean area, address all applicable environmental laws and regulations, collect and interpret best available science, create methodologies to predict environmental effects, and compile it all into scientifically accurate and readable studies. The team successfully completed three East Coast Range Complex final EIS and associated marine species regulatory permits, providing total environmental



Electronics Technicians Randy Constant and Steve Farmer conduct single board computer testing in the Integrated Training Systems Laboratory Complex at CDSA DN to determine the reuse viability of recovered parts, in support of the BFTT ISEA design teams recycling and refurbishing efforts.

coverage for live training along the east coast with no loss of current capabilities. In addition, the team continued integrating operations into the environmental planning process, developed groundbreaking responses to emerging natural resource issues during late stages of the environmental planning process, dealt with last minute regulatory actions, and supported new mine warfare capabilities on the east coast.

#### **Southern California Range Complex Environmental Planning Team, California**

The success of the Southern California Training Range Complex (SOCAL) environmental planning and compliance project was based on a highly innovative and proactive approach that provides the Commander, United States Pacific Fleet (COMPACFLT) the ability to use sonar in the accomplishment of its sea-based, sonar training mission while continuing to protect marine resources. The SOCAL project ultimately developed a long-term solution to allow Sailors, Marines, and Special Forces to conduct critical training in one of the Navy's premier and irreplaceable training complexes. The SOCAL environmental planning project was exceptionally managed by Alex Stone who led a diverse, interdisciplinary governmental and contractor team—all in support of one of the most highly visible, operationally critical, environmentally complex and legally contentious environmental planning efforts in the Navy. This team's efforts supported COMPACFLT's goal to continue to train while adhering to protective and natural resources measures that also simultaneously ensure training integrity. The team also effectively addressed environmental concerns for critically endangered species and a myriad of other sensitive marine and terrestrial species along the coast of Southern California.

#### **Undersea Warfare Training Range Environmental Planning Team, Virginia**

The Undersea Warfare Training Range (USWTR) environmental planning and compliance initiative was based on a highly innovative and proactive approach that will success-



The USS PREBLE (DDG 88) fires a surface-to-air missile while conducting missile-firing exercises on SOCAL.

*U.S. Navy photo by Photographer's Mate 2nd Class Juan Eduardo Diaz*

fully give USFF the ability to conduct littoral Anti-Submarine Warfare (ASW) training while continuing to protect marine resources. Specifically, the USWTR initiative ultimately developed a long-term solution to allow Sailors and Airmen the capability to maintain proficiency in littoral ASW skill sets. The team's efforts enhanced future ASW training effectiveness through successful environmental planning of USWTR, which will provide USFF the opportunity to train in situations that replicate areas where they operate. 📍

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# Permits May Be Required at Installations that Apply Pesticides

## New Requirement for the EPA National Pollutant Discharge Elimination System Program

**AS OF 31 OCTOBER 2011**, installations with point source discharges of pesticides to waters of the U.S. will be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act (CWA).

This requirement stems from a January 2009 6th Circuit Court of Appeals decision which vacated a 2007 U.S. Environmental Protection Agency (EPA) rule that said NPDES permits were not required for applications of pesticides in, over, or near U.S. waters when applied in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The January 2009 decision determined that pesticides are pollutants.

The CWA prohibits discharges of pollutants from point sources to waters of the U.S. without a NPDES permit. Under FIFRA, EPA issues labels describing authorized pesticide uses, and pesticides must be used in this manner to comply with FIFRA. According to the 6th Circuit Court, discharges of pesticides, regardless of FIFRA compliance, are considered point source discharges whose use in,

near, or over waters of the U.S. will require a NPDES permit. CWA Section 301(a) defines point source discharges as “discrete conveyances including but not limited to any pipe, ditch, channel, or conduit from which pollutants are or may be discharged.”

The 6th Circuit Court’s determination spurred EPA to develop the Pesticide General Permit (PGP) for areas where

EPA is the NPDES permitting authority. This includes six states (Alaska, Idaho, Massachusetts, New Hampshire, New Mexico, and Oklahoma), the District of Columbia, all U.S. territories (except the U.S. Virgin Islands), most Indian Country lands, and federal facilities in four states (Colorado, Delaware, Vermont, and Washington). The remaining 44 states are responsible for developing and issuing their own



Pesticide applications to or near waters of the U.S. will need a NPDES permit.

*Martin Ruane*



Installations whose pesticide usage meets requirements of the EPA's PGP will need to submit an NOI and prepare a PDMP.  
*Mass Communication Specialist 2nd Class Eric J. Cutright*

## The CWA prohibits discharges of pollutants from point sources to waters of the U.S. without a NPDES permit.

### The CWA SSC & DENIX

THE CWA SSC was established to lead DoD in cost-effective implementation of CWA statutes and regulations and to help to achieve sustained compliance at DoD installations. Membership includes senior representatives of the Army, Navy, Marine Corps, Air Force, Defense Logistics Agency, and the Office of Secretary of Defense. Information on the CWA SSC can be found on the DENIX web site (at [https://denix.osd.mil/denix\\_secure/cwassc](https://denix.osd.mil/denix_secure/cwassc)) including DoD comments submitted to regulatory agencies, information papers, guidance, and training opportunities. Also included is a Pesticide Subcommittee web page (at [https://denix.osd.mil/denix\\_secure/cwassc/pesticide.cfm](https://denix.osd.mil/denix_secure/cwassc/pesticide.cfm)) highlighting the Subcommittee's meeting minutes, EPA/State PGP updates, fact sheets, comments submitted to EPA, and HR 872. For additional information, contact Andrea Lamartin ([andrea\\_lamartin@urscorp.com](mailto:andrea_lamartin@urscorp.com)) or Lindsay Nehm.

state NPDES pesticide permits to meet the needs of their location. Many states have been developing PGPs to mirror EPA's; however, states have the ability to make permits more stringent than EPA's requirements. Installations must be aware of their state's requirements.

EPA's PGP includes requirements for such actions as:

- Reducing amounts of pesticides used
- Monitoring usage
- Maintaining equipment
- Submitting Notices of Intent (NOI) if necessary
- Implementing Integrated Pest Management (IPM) strategies
- Developing Pesticide Discharge Management Plans (PDMP)

The PGP provides coverage for four types of pesticide use patterns. Installations with pesticide usage that does not

## CWA SSC Pesticide Subcommittee Recommendations

THE PESTICIDE SUBCOMMITTEE has established general guidelines for installations to ease pesticide permit implementation. Establishing and strengthening communication lines among personnel responsible for pest management or CWA compliance are central to the Subcommittee's recommendations. These installation personnel can refer to the following checklist of recommendations:

1. Determine pesticide usage within the four use types and calculate total areas of treatment.
2. Establish/Strengthen relationship between the installation's CWA and pest management offices to ensure both parties understand the requirements and their roles and responsibilities.
3. Contact the responsible state office to learn about specific state permit requirements.
4. Contact installation legal counsel if concerned or confused about the EPA or state's permit status or requirements.
5. Determine the need for an NOI and identify who is responsible for its submittal as well as any reporting requirements.
6. Ensure contracts are modified if necessary and contractors comply with pesticide permit requirements.
7. Submit funding requests for PDMPs or other permit requirements if necessary.
8. Ensure proper pesticide usage and other recordkeeping to aid in preparing required reports or plans.

fall under the four categories in, near or above waters of the U.S., must acquire an individual permit. An individual permit is a NPDES permit for a specific activity not covered by a general permit.

Discharges resulting from agricultural stormwater or irrigation return flow are exempt from NPDES permit requirements under the CWA.

In January 2011, the Clean Water Act Services Steering Committee (CWA SSC), including members of the Armed Forces Pest Management Board, formed a Pesticide Subcommittee to discuss strategies for implementation and implica-

tions that a NPDES pesticide permit would have on Department of Defense (DoD) installations. The Pesticide Subcommittee serves as a multidisciplinary communication interface to coordinate and resolve DoD issues, and provide guidance to installations if necessary. Subcommittee information can be found at [https://denix.osd.mil/denix\\_secure/cwassc/pesticide](https://denix.osd.mil/denix_secure/cwassc/pesticide).

It is important to note that proposed legislation could eliminate the need for the PGP. House Rule 872, titled the Reducing Regulatory Burdens Act of 2011, was passed by the House of Representatives on 31 March 2011. The bill will be debated by the Senate. EPA and the states will still be developing permits. Installations should operate under the assumption that a NPDES permit will be required as of 31 October 2011. For more information or updates, please contact Andrea Lamartin ([andrea\\_lamartin@urscorp.com](mailto:andrea_lamartin@urscorp.com)) or Lindsay Nehm. 

*Disclaimer: The information contained in this article is based upon the pre-publication version of EPA's draft final PGP, and is subject to change upon finalization of the PGP. Check out the CWA SSC Pesticide Subcommittee web page for the most current information at [https://denix.osd.mil/denix\\_secure/cwassc/pesticide.cfm](https://denix.osd.mil/denix_secure/cwassc/pesticide.cfm).*

### Pesticide Use Patterns Covered under EPA's PGP

THE PGP COVERS the following four pesticide use patterns that result in point source discharges to waters of the U.S.:

- Mosquito and Other Flying Insect Pest Control
- Weed and Algae Pest Control
- Animal Pest Control
- Forest Canopy Pest Control

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# CURRENTS LIVE ON greenfleet Online

## Magazine Now Shares Space on the Energy, Environment & Climate Change Web Site

*Currents* has a new home on the internet—on the Department of the Navy’s Energy, Environment and Climate Change web site—at [greenfleet.dodlive.mil/currents-magazine](http://greenfleet.dodlive.mil/currents-magazine).

This web site provides news and information about Navy programs to achieve energy security, practice environmental stewardship, and understand the potential challenges presented by a changing climate. These programs serve to increase combat capability and ensure mission readiness in the decades to come. And now *Currents* is there to promote these efforts.

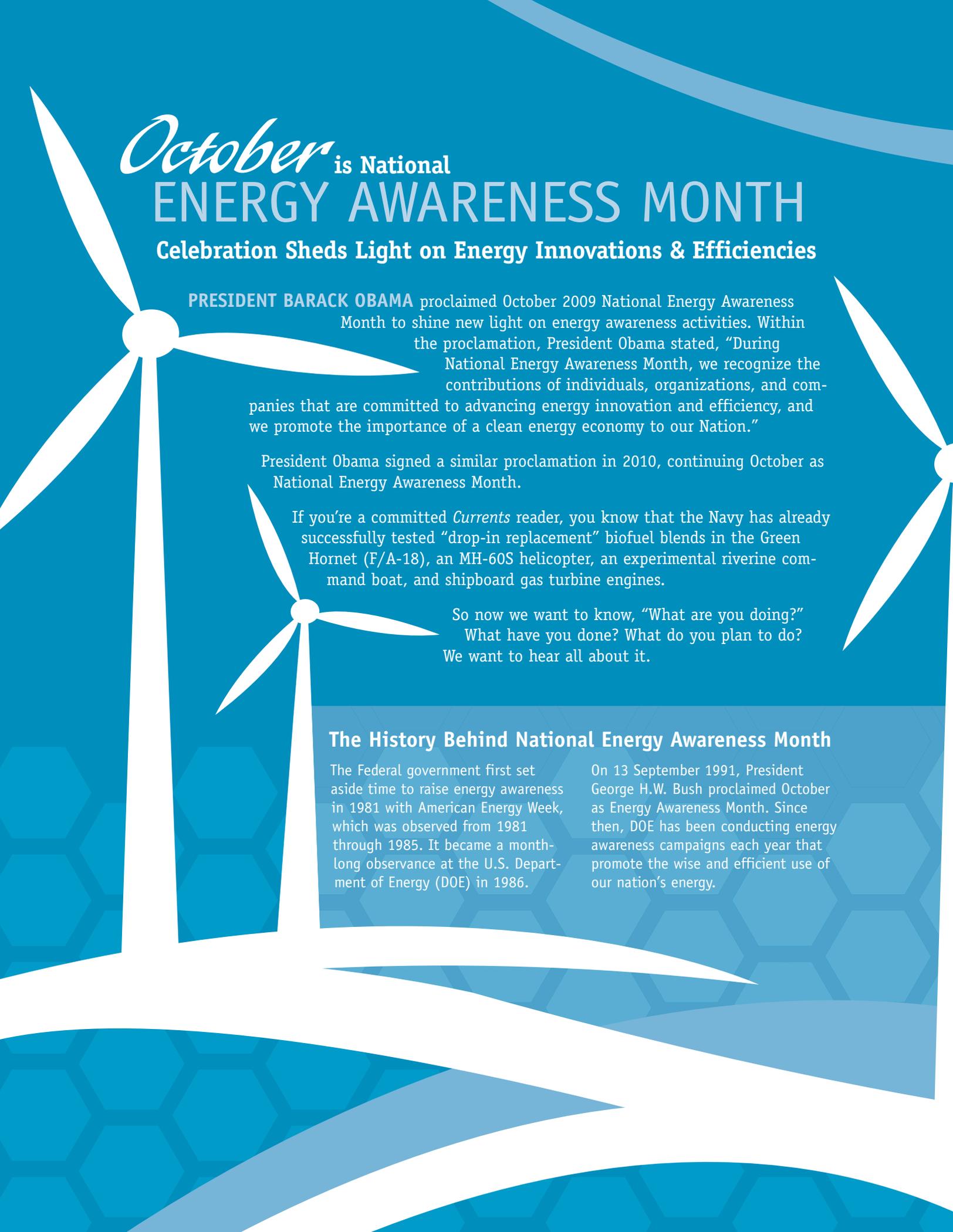
You can do everything on our new web page that you used to do on our old web page:

1. Subscribe to the magazine
2. Submit story ideas
3. Browse an article or an entire issue (via PDFs or digital versions)
4. Access our annual calendar

We’ve also included quick and easy access to all of our social media sites including our Facebook, Twitter and Flickr pages.

But you’ll want to update your browser to [greenfleet.dodlive.mil/currents-magazine](http://greenfleet.dodlive.mil/currents-magazine) so that you have all of the latest and greatest information about the Navy’s energy and environmental initiatives.





# October is National ENERGY AWARENESS MONTH

## Celebration Sheds Light on Energy Innovations & Efficiencies

**PRESIDENT BARACK OBAMA** proclaimed October 2009 National Energy Awareness Month to shine new light on energy awareness activities. Within the proclamation, President Obama stated, "During National Energy Awareness Month, we recognize the contributions of individuals, organizations, and companies that are committed to advancing energy innovation and efficiency, and we promote the importance of a clean energy economy to our Nation."

President Obama signed a similar proclamation in 2010, continuing October as National Energy Awareness Month.

If you're a committed *Currents* reader, you know that the Navy has already successfully tested "drop-in replacement" biofuel blends in the Green Hornet (F/A-18), an MH-60S helicopter, an experimental riverine command boat, and shipboard gas turbine engines.

So now we want to know, "What are you doing?"  
What have you done? What do you plan to do?  
We want to hear all about it.

### The History Behind National Energy Awareness Month

The Federal government first set aside time to raise energy awareness in 1981 with American Energy Week, which was observed from 1981 through 1985. It became a month-long observance at the U.S. Department of Energy (DOE) in 1986.

On 13 September 1991, President George H.W. Bush proclaimed October as Energy Awareness Month. Since then, DOE has been conducting energy awareness campaigns each year that promote the wise and efficient use of our nation's energy.

Tell us about the photovoltaic panels you installed or that green roof you just completed. Or maybe you put up a wind turbine like the folks at the Marine Corps Logistics Base Barstow, CA? Have you instituted energy efficient business practices that others could benefit from? Have you recently received energy efficiency certification for a new or existing building on your installation? Tell us all about it!

Please submit your stories and images directly to our Managing Editor, Bruce McCaffrey at [brucemccaffrey@sbcglobal.net](mailto:brucemccaffrey@sbcglobal.net) by Friday, 19 August. Your submission will help us complete our story about Navy energy innovations and efficiencies for inclusion in our fall-11 issue. Bruce is also available at 773-376-6200 if you have any questions about your submittal.

## Materials to Help You Celebrate National Energy Awareness Month 2011— Saturday, 1 October through Monday, 31 October 2011

Each October for National Energy Awareness Month, the Federal Energy Management Program (FEMP) provides materials and ideas to help promote energy-saving practices at Federal facilities. Resources include posters and other energy awareness materials carrying FEMP's Energy Awareness Month outreach message.

**Q:** What materials are available for promoting National Energy Awareness Month?

**A:** FEMP offers a limited supply of National Energy Awareness Month promotional materials, such as posters and bookmarks. High-resolution print files are also available so you can print ample quantities of your own materials.

**Q:** How can I promote wise energy use practices at a military installation where many residences are maintained?

**A:** FEMP provides a guide specifically for promoting wise energy use practices for military housing. *The Revised Handbook for Promoting Behavior-Based Energy Efficiency in Military Housing* contains details on successful energy efficiency campaigns at military installations.

**Q:** What are popular ways to promote energy savings during National Energy Awareness Month?

**A:** There are many ways to promote energy savings. For example, one simple way is to publicize energy saving tips via handouts, newsletters, e-mails, and other means. You can also display posters carrying energy-saving reminders in hallways and other high traffic areas. Find out about more ideas on activities promoting energy savings by visiting the ENERGY STAR

web site (at [www.energystar.gov](http://www.energystar.gov)) and the Design and Implement the Program chapter in FEMP's Handbook for Federal Energy Managers.

**Q:** How do I plan an energy awareness campaign for my facility?

**A:** FEMP published *Creating an Energy Awareness Campaign: A Handbook for Federal Energy Managers* to provide guidance for planning, designing, and implementing a custom program, along with how to evaluate and report on results.

All of these resources can be found on FEMP's web site at <http://www1.eere.energy.gov/femp> then select "Services" then "Outreach" then "Energy Awareness Month."

# Seabees Jump In to Help Save Pilot Whales

## Military Training an Asset in Rescue Effort

**WHEN TWENTY-ONE STRANDED** pilot whales were discovered along the shores of Cudjoe Key, Florida, hundreds of volunteers responded, including participants in the Marine Mammal Stranding Network (MMSN) and twenty-two Seabees from the Navy's Construction Battalion Maintenance Unit-202 (CBMU-202 DET Key West).

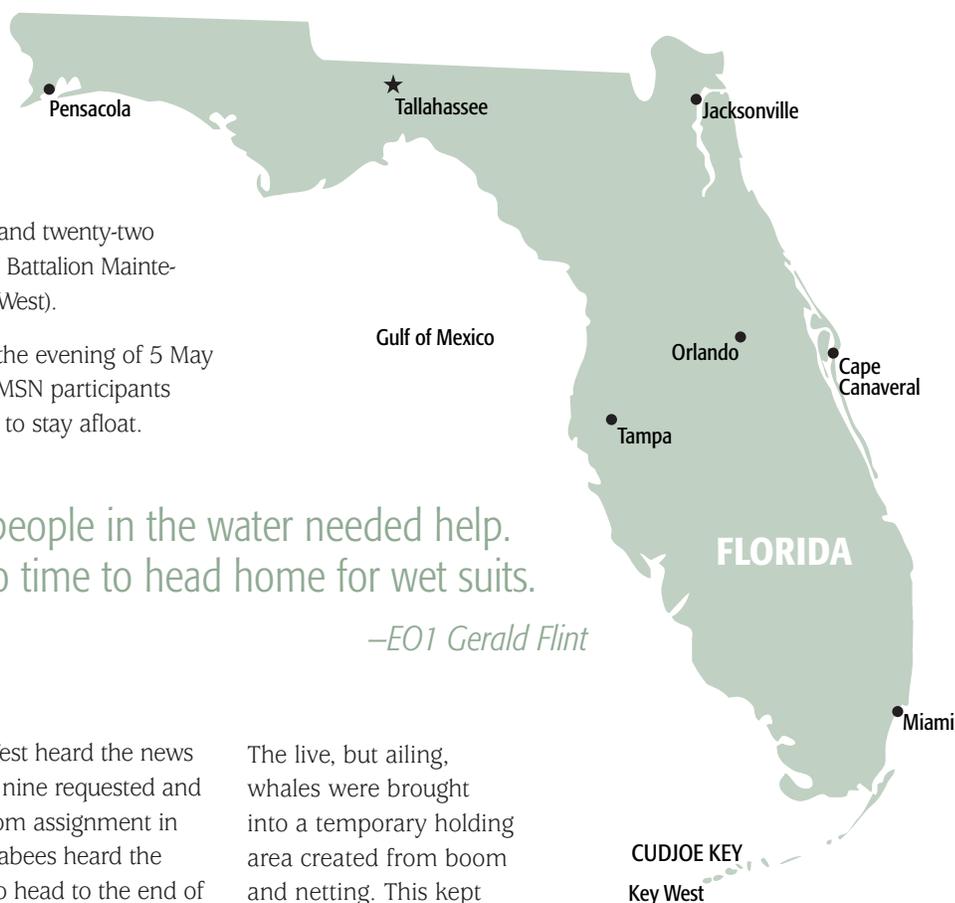
A kayaker discovered the first whale the evening of 5 May 2011. By the early hours of 6 May, MMSN participants were in the water helping the whales to stay afloat.

The whales and the people in the water needed help.  
There was no time to head home for wet suits.

—EO1 Gerald Flint

A member of CBMU-202 DET Key West heard the news on his way to work. The first crew of nine requested and received permission to be relieved from assignment in order to help the whales. As other Seabees heard the news, they too received permission to head to the end of Blimp Road where the whales were being corralled and assisted. By 0900, the Seabees were being divided into groups and assigned tasks. Several teams of two headed into the water in their work camouflage uniforms to relieve the volunteers who had been in the water for hours. As one of the participating Seabees, EO1 Gerald Flint, noted, "The whales and the people in the water needed help. There was no time to head home for wet suits. We just needed to get to work."

The live, but ailing, whales were brought into a temporary holding area created from boom and netting. This kept the whales together and protected them from predators. Several of the whales appeared to have pulmonary edema (build up of water in the lungs) that caused labored breathing and indicated possible infection. Veterinarians drew blood samples to test for viruses, administered antibiotics for infections and regularly checked vital signs. The whales also received rehydration liquids.





Pilot Whale fluke.

Rescue of R301 and R302.  
(Rescued whales are assigned numbers for research recordkeeping and to reduce bonding by their human rescuers.)



Because of their fragile state, the whales needed help staying afloat to prevent drowning. Following a quick briefing, two volunteers were assigned to each whale, cradling it in a special hold and keeping it wet. Necessary precautions included keeping water away from the whale's blowhole, keeping the animal wet and cool and holding gently to avoid peeling the whale's sunburned skin. In one case, a large male became sufficiently agitated when another male was brought in that he threw off his holders. Otherwise it seemed as though the whales knew the humans were helping. EO1 Flint commented, "Sometimes a whale would wrap its pectoral fin around its human helper, which also helped to keep the person warm."

Volunteers served in the water, on shore and out on boats. Those in the water

Teaching volunteers how to properly hold a marine mammal.



worked four-hour shifts around the clock. Despite water temperatures in the high 70's and daytime air temperatures in the 90's, those in the water were chilled by the end of a shift. On-shore volunteers provided drinks and food, including warm clam chowder, to those coming out of the water.

Pilot whales are social animals, traveling in large groups, or pods. If one pod member is ill and strands itself, others typically will follow. Yet it does not mean all pod members will be in one location. For the Cudjoe Key pod, individual whales were stranding in mangrove stands and in shallows over an area of roughly five square miles.

The MMSN team needed boats and crews out looking for other whales. Seabee BUC Danny Rose headed to a nearby marina and secured a boat to help search for other whales.

When live whales were found, each would be loaded onto a zodiac (inflatable boat) and towed back to the temporary pen to be evaluated and

## Marine Mammal Stranding Network & the Marine Mammal Conservancy

**IT TAKES A** well coordinate team to respond to marine mammal strandings. Following enactment of the 1992 amendments to the Marine Mammal Protection Act, the National Marine Fisheries Service (NMFS) of the National Oceanographic and Atmospheric Administration was designated as the lead agency to establish regional volunteer stranding response networks.

The Southeast Region stranding network covers eight states, Puerto Rico and the Virgin Islands. Approximately four hundred organizations participate, including federal, state and local governments and nonprofit groups. Organizations are authorized via NMFS Letters of Authority and receive NMFS training. Only a limited number of the organizations are authorized to rehabilitate cetaceans.

One of these organizations, the Marine Mammal Conservancy (MMC), had a prominent role in the Cudjoe Key pilot whale rescue and rehabilitation effort. The nonprofit MMC, located in Key Largo, Florida, is authorized by NMFS to respond, rescue, transport and rehabilitate marine mammals. The organization's rescue range covers the Florida Keys, from Biscayne National Park in the northeast to Cape Sable in the northwest and to the Dry Tortugas in the Southeast.

The Conservancy works to encourage public participation in protecting and rescuing marine mammals. In addition to its rescue and rehabilitation efforts, MMC sponsors

volunteer training and education outreach. The MMC has advised other countries on marine mammal rescue and supported efforts throughout the Gulf Coast and the Southeast Atlantic region.

Other MMSN organizations that were instrumental in the pilot whale rescue were Sea World, Ocean Embassy, Harbor Branch Oceanographic and the Georgia Aquarium. These organizations provided veterinarians and other experts, equipment and supplies.

Rescue and rehabilitation is an expensive and resource intensive effort. Specific costs vary by species and age but estimates range from \$250,000 to \$500,000 per animal. This does

not include all of the volunteer time and contributions, from boats to food to equipment.

Robert Lingenfelter, MMC President, summarized the commitment to such efforts by saying, "As the dominant species on this planet, we have a duty and an obligation to properly protect and manage all of our resources. You cannot do that without the basic science. That is what the stranding network is for—to provide some of that data to make a difference in the health of our oceans tomorrow as well as the health of our planet in which we all depend."

For more information about the MMC, visit <http://marinemammalconservancy.org>.





Navy Seabees helping out during rescue operations.

helped. To the people in the water and along the shoreline, those zodiacs were a hopeful sign. Observers knew that boats returning without the zodiac carried only a carcass.

for these social pilot whales, it is important that they can see that they are not alone. Once the circle was formed, the whales were notably calmer.

And it was not just the humans who knew when the boats brought live whales or carcasses. Each time a boat returned with a dead whale, the whales in the pen would call out and become agitated. To help calm the corralled whales, they were brought into a circle to let them see each other. Particularly



Y401—a male's dorsal fin.



Applying a satellite tag.



Loading Y400 and Y404 for release back into the wild.

Two whales, identified as Y401 and Y404, were determined to be sufficiently healthy to release. These whales were equipped with satellite tags and loaded onto a barge to get them out to deeper water. Seabees and several MMSN participants assisted with the release operation. The first whale lowered into the water stayed near the boat until the second was lowered. The two touched then headed off together. Over the next few days they were



We could not have done what we did without the Seabees' help.

—Robert Lingenfelser

tracked heading out into the Gulf Stream and making their way up the Atlantic coast.

By Tuesday, 10 May, five surviving but critically ill whales were transported to the Marine Mammal Conservancy's rehabilitation center in Key Largo, Florida. When a transport truck from the Georgia Aquarium, slated to transport the

whales, encountered mechanical problems, the Publix grocery store chain provided one of its trucks to make the trip.

Twenty-four hour volunteer support continued at the rehabilitation center. Despite all efforts, a few days after arriving at the center, the largest male was euthanized as his pulmonary edema worsened. The

remaining four are expected to require months of rehabilitation.

It may never be known why this group stranded. Blood and tissue are being tested to help researchers understand more about the condition of the whales and to determine if known viruses may have contributed. There was no Navy sonar use in the Gulf of Mexico training range or

## Construction Battalion Maintenance Unit-202 Detachment Key West

FOR THE SECOND time in eight years, Seabees have responded to help stranded marine mammals. The Seabees also helped during the 2005 stranding of rough-toothed dolphins. The following Seabees from CBMU-202 DET Key West participated in the 2011 pilot whale rescue effort:

1. BU2 Ernie Gant
2. BU2 Jeremy Tellier
3. BU2 Sergio Armas
4. BU2 William Travis
5. BU3 Cody Hoeck
6. CE2 Steven Meakins
7. CE3 David Lasch
8. CM2 Timothy Long
9. CMCA Casey King
10. CMCN Tara Strieby
11. EA3 An Chi Lo
12. EO1 Gerald Flint
13. EO1 Robert Kendall
14. EO2 Carlos Guzman
15. EO2 John Hagelund
16. EO3 Tyson Wright
17. EOCN Luis Torres
18. EOCN Trevor Stanley
19. SW2 Geoffrey Sark
20. SW2 John Smith
21. SW2 Terryl McCormack

BUC Danny Rose from the Naval Facilities Engineering Command Southeast DET Key West also supported this rescue effort.

The CBMU-202 DET Key West will be disestablished on 1 September 2011.



Team members from the Marine Mammal Conservancy, Sea World and Ocean Embassy prepare to release Y400 back into the wild.

around the Florida Keys for the seven days prior to the strandings.

Robert Lingenfelter, MMC President, shared his appreciation of the Seabee help. "These rescue efforts depend on a chain of command structure that the Seabees understand. Their training enables them to respond immediately to direction. We cannot succeed without volunteers and we could not have done what we did without the Seabees' help."

SW2 McCormack remarked, "The Seabees put out an amazing effort. We

are trained for disaster relief and contingency construction, and although we have never done anything like this before, we stepped up and proved once again that there truly is no limit to what the Seabees CAN DO." ⚓

*Photos by Bob & Mariela Care  
Photography*

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## NAWS China Lake & Local Community Join Forces for Earth Day 2011

### First Earth Day Fair Stressed the Importance of Conservation

**MEMBERS OF THE** China Lake and Ridgecrest communities crowded the front lawn of the base's Headquarters Building to celebrate Earth Day 2011 and learn about what is being done locally to preserve the environment.

"Partnering for a Greener Tomorrow," was the theme of Earth Day 2011, and China Lake's first Earth Day Fair. Personnel from the Naval Air Weapons Station (NAWS) China Lake partnered with the local community to educate China Lake's workforce and affiliates with informative booths, displays and activities on 22 April.

"We've probably had about 500 people stop by," said Michael Baskerville, the Cultural Resource Program manager for China Lake, whose exhibit featured artifacts recovered from various time periods and locations on and around what is now NAWS China Lake, as well as a 'dig pit' filled with candy.

Youths from the Movin' on Up Program, as well as those attending with their parents, enjoyed running around, "excavating" their candy and using the atlatl (a precursor to the Native American's bow and arrow) to try to hit make-shift animal targets.

In addition to learning about the historical aspects of the local environment, visitors also explored booths that showed how energy is being conserved at China Lake, and how they can make a positive impact on the future of the region.

A history of NAWS China Lake's conservation efforts by the Naval Facilities Engineering Command Southwest China Lake Detachment was showcased at multiple booths, such as the Environmental Depart-

ment, which had a successful venture offering an exchange rate of five plastic shopping bags per reusable cloth bag.

The Recycling Office showed how the recycled material collected on base is bundled for resale, and the Facilities Engineering and Acquisition Division revealed future water conservation plans for China Lake.

For those who wanted to see renewable energy put to use, the Earth Day Fair featured the Utility Management Group's Solar Trailer—a portable source of energy that powered several appliances to demonstrate its capabilities.



Attendees take a close-up look at a desert tortoise, an endangered species, provided by BLM at China Lake's Earth Day Fair.



Children from the NAWS China Lake Child Development Center learn about the past as a volunteer shows how to use the atlatl—a precursor to the bow and arrow.



Children attending the Earth Day Fair got a chance to try their hand at excavating at the “dig pit” set up by the NAWCWS China Lake Cultural Resources Department.

The Facilities Engineering and Acquisition Division booth featured past efforts and future plans to reduce the Station’s water consumption, a critical issue in any desert climate and a high priority of the commanding officer.

Visitors were also able to see how recycled material is bundled for resale and given reminders to recycle.

The Geothermal Program Office provided information and fielded questions on the industry-military cooperation that takes place between the Navy and those producing geothermal energy. NAWCWS China Lake is the home of Coso Geothermal, one of the most productive geothermal fields in the world.

The Indian Wells Valley Water District, Pacific Gas and Electric as well as Southern California Edison showed their support for the event by informing the crowd of how they can conserve at home and in the workplace.

An innovative exhibit was the EcoTrek Foundation, which designs vehicles to run on renewable fuels and has been working with personnel from the Naval Air Warfare Center—Weapons Division (NAWCWD) China Lake in their efforts to reduce military dependency on oil. “Key to the

work in renewable fuels by NAWCWD,” offers Michael Owens, NAWCWD Energy Coordinator, “is our ability to partner and collaborate with industry, academic and other government agencies to provide renewable and sustainable energy solutions to our Warfighter that also addresses the Secretary of the Navy’s vision of reducing the Navy’s petroleum consumption.”

The Bureau of Land Management (BLM) provided information about off-roading, and featured desert tortoises much to the admiration of attendees, many of whom had never seen the protected animal.

Movin’ On Up’s climbing wall hosted a constant stream of youths who waited in line for their chance to scale the portable mountainside—an environmentally-friendly activity. ⚓

*Photos by Jessica Armstrong*

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## With EPCRA, Knowing is Half the Battle

### What You Need to Know to Jump Start 2011 EPCRA Reporting

#### Get Ahead—New Policy on the Horizon

The Navy's environmental policy manual, "OPNAVINST 5090, Environmental Readiness Program Manual" is currently being revised and is due for release in 2012. Changes include new policy procedures for implementing the Emergency Planning and Community Right-to-Know Act (EPCRA), specifically regarding EPCRA Section 313 – Toxic Chemical Release Reporting. Installations will be required, by 1 August of each year, to provide:

- Detailed information on the processes and activities contributing to toxic chemical releases at your installation
- Detailed information on events driving toxic chemical release changes from previous reporting years at your installation
- An explanation for non-reporting at your installation

To save time and effort during fiscal year (FY) 2012, now is the time to start collecting the materials and data pertaining to the new policy. The information you provide will help identify pollution prevention opportunities for Navy-wide implementation and direct research and development efforts.

#### DoD SSPP

**PER EXECUTIVE ORDER 13514**, DoD developed a FY 2010 SSPP that assembled all of DoD's requirements pertaining to sustainability and performance into one cohesive strategy document. The SSPP applies to all DoD components, including military departments, defense agencies, and DoD field activities and facilities worldwide and will be developed and submitted annually through FY 2020. The FY 2010 SSPP contains four objectives, eight goals, and 21 sub-goals. Sub-goal 6.1 relates to EPCRA Section 313 – toxic chemical release reporting, and targets a reduction of toxic chemicals released on-site and transferred off-site by 15 percent by FY 2020, relative to RY 2006, excluding operational range releases.

In addition, guidance regarding the Department of Defense (DoD) Strategic Sustainability Performance Plan (SSPP) will also be included in the updated policy. The SSPP identifies goals established by DoD to reduce the use and release of chemicals of environmental concern. In support of DoD's SSPP, the Navy has committed to reduce non-range Toxic Release Inventory (TRI) reportable quantities of on-site releases and off-site transfers of toxic chemicals by 15 percent by FY 2020 relative to reporting year (RY) 2006. The new SSPP goal requires participation from all installations. Regional commanders and commanding officers will be tasked with providing detailed information on progress made towards the SSPP reduction goal annually by 1 August.

The SSPP identifies goals established by DoD to reduce the use and release of chemicals of environmental concern.

Here's how you can help meet the toxic chemical reporting obligation and reduction goal:

- Compile and file detailed information regarding the EPCRA Section 313 toxic chemical release materials identified above.
- Document success stories at your installation. This is an opportunity to promote your installation as a responsible and sustainable steward among Navy, DoD, and public communities.
- Characterize any issues inhibiting your ability to meet the reduction goal.
- Critically assess your installation's maintenance schedule, maintenance processes, and materials management practices in an effort to identify additional efficiencies and improved processes.

The Office of the Secretary of Defense will lead development of the SSPP's annual update which will cover progress made during the previous RY as well as plans for the current RY and beyond. Your knowledge, experience, and understanding of activities and processes involving toxic chemical releases at your installation are critically important to the Navy. The information you provide will

help to identify reduction and substitution opportunities, successful reduction actions, best management practices, and will help to more accurately portray and promote Navy activities in the sustainability field.

## Preparing for RY 2011 Reporting

Annual reporting requirements for EPCRA make summertime an ideal time to wrap-up RY 2010 reporting and begin efforts for RY 2011. Next year's reporting can be made easier by taking the time now to review new guidance, complete the current reporting year requirements, and document key information and communication.

## Quick Review—Available Guidance

The Chief of Naval Operations Energy and Environmental Readiness Division (OPNAV N45) has expanded the “Getting Started with the Emergency Planning and Community Right-to-Know Act (EPCRA): A Primer for Navy Facilities” (May 2009) guidance, providing additional detailed guidance on the following topics:

- *How to Consider Batteries* (February 2010)  
Provides an approach for analysis of batteries' chemical components significant to all EPCRA regulations by identifying steps to take when gathering the necessary data and suggests an effective way to use the data.
- *How to Consider Fuel Thresholds* (June 2010)  
Provides guidance for gathering necessary data and applying available exemptions to toxic chemicals in fuels used in various applications at military installations, and presents an EPCRA Section 313 TRI assessment direction.
- *How to Consider Munitions and Range Activities* (March 2011)  
Provides general guidance, such as munitions and range activity definitions, exemption application, TRI Data Delivery System (DDS) use, threshold calculation assistance, and Form R selection for performing an EPCRA Section 313 assessment for munitions and range activities.
- *How to Consider Nitrate Compounds* (due for release in summer 2011)  
Once available, will provide an approach to calculating nitrate compound threshold and release amounts for EPCRA Section 313 assessments from wastewater treatment facilities.

In addition, an Excel™ template spreadsheet is available for each of the above guidance documents for calculation and documentation assistance.

## RY 2010 Wrap-Up

### Where to Begin—Assemble & Store

DoD and the Navy require facilities to keep documentation (e.g., copies of the signed Form R report, calculations, worksheets, other forms used for the Form R report) for at least five years from the submission date. This documentation can be referenced to assist in completing Form R reports and has the dual benefit of being useful as supporting information in the event a question arises regarding the Form R.

Additional documentation that should be maintained for future reporting assistance include how data was collected, where and what type of exemptions were

## Helplines for RY 2011

- **Training Courses:** The Naval Civil Engineer Corps Officer School (CECOS) will be offering EPCRA training, both full training and refresher courses, in the form of web conferences in FY 2012.
- **New EPCRA Guidance:** Copies of *Getting Started with EPCRA* and all available calculation manuals and templates (batteries, fuel thresholds, munitions and range activities, and nitrate compounds related to wastewater treatment (when complete)) are available at:
  - The Naval Facilities Engineering Command's Enterprise Document Library (at [https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac\\_docs\\_pp](https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_docs_pp))
  - The CECOS web site (at <http://www.cecocosweb.com/handouts/EPCRA>)
  - The TRI-DDS web page (at <https://dod-tridds.org/tri-web>)

New Calculation Manual appendices will be announced via the Navy EPCRA e-mail group. To become a member, e-mail [NavyEPCRA@urscorp.com](mailto:NavyEPCRA@urscorp.com).
- **Voluntary Form R Technical Review:** OPNAV N45 is again offering a technical review service for Form R reports. To support planning efforts, interested installations should send an e-mail to the Navy EPCRA E-mail Help Line at [NavyEPCRA@urscorp.com](mailto:NavyEPCRA@urscorp.com).

### Ideas for Future Calculation Manuals

OPNAV N45 HAS released EPCRA guidance on batteries, fuel thresholds, and munitions and range activities, and is developing guidance regarding nitrate compounds released due to wastewater treatment. OPNAV N45 is looking for suggestions from the field on new topics for EPCRA guidance.

If you have suggestions for a guidance topic for EPCRA compliance or any comments on previously released guidance, send your comments and ideas to the Navy EPCRA E-mail Help Line at [NavyEPCRA@urscorp.com](mailto:NavyEPCRA@urscorp.com).

applied, calculation approaches and tools used, release estimates and supporting data, any assumptions made, notes on how reporting forms were compiled, proofs of delivery, EPCRA Section 313 Facility Data Profile, and any communication with EPCRA authorities. By ensuring your documentation is saved and available for future reference, your EPCRA reporting will be one step ahead, making next year's reporting easier and faster.

### Next Steps—Report Up the Chain

OPNAV N45 will use the TRI information reported up your chain-of-command to develop the Navy section of the Defense Environmental Programs Annual Report to Congress (DEP ARC), which provides a comprehensive review of DoD's budget trends and environmental performance, as well as annual updates to the SSPP. It also outlines how DoD uses congressional funding to meet environmental program goals.

### Close-Out Outstanding Questions

An OPNAV N45 representative may contact your installation to clarify reporting changes from the previous year in an effort to catch errors before the data is published in the publicly available DEP ARC and SSPP. The U.S. Environmental Protection Agency (EPA) may also contact the Form R contact for clarification of reported data. Be sure to document all contact with OPNAV N45 or EPA representatives. ↴

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## Be Part of Our Winter Issue

Submissions Are Due by 21 October

We're already planning our winter 2012 issue. And you can be a part of it! If you have a story that you want us to consider, you need to submit your final text and images by 22 July 2011.

We look forward to reading your stories about all the great work you're doing as the Navy's stewards of the environment.

**The power of your experiences is even greater when you share them with our readers.**

Your chances of being published in *Currents* are dramatically increased if you follow our article template. Simply request this easy-to-use template by sending an email to Bruce McCaffrey, our Managing Editor, at [brucemccaffrey@sbcglobal.net](mailto:brucemccaffrey@sbcglobal.net). Bruce is available at 773-376-6200 if you have any questions or would like to discuss your story ideas.

### Currents Deadlines

Winter 2012 Issue: Friday, 21 October 2011  
 Spring 2012 Issue: Friday, 20 January 2012  
 Summer 2012 Issue: Friday, 20 April 2012  
 Fall 2012 Issue: Friday, 20 July 2012

You can also refer to your *Currents* calendar for reminders about these deadlines.





## SERDP & ESTCP Announce Program for Annual Environmental Symposium

New Location for This Year's Event

**THE PARTNERS IN** Environmental Technology Technical Symposium and Workshop, sponsored by the Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP), will be held 29 November to 1 December 2011, at the Washington Hilton—a new location for the event. The symposium will offer a dynamic opening plenary session, 16 technical sessions, five short courses, approximately 450 poster presentations, and a variety of networking opportunities for attendees from the government, academic, and private sectors.

### Technical Program

- Energy Management and Technologies for Department of Defense (DoD) Buildings
- Renewable Energy on DoD Installations
- Microgrids for Energy Security on DoD Installations
- Challenges to Military Readiness Posed by Climate Change
- Pacific Island Restoration Challenges
- Role of Fire in the Carbon Cycle under Climate Change
- Incorporating Innovative Technologies to Meet DoD Restoration Goals from Remedy in Place to Response Complete
- Environmental Molecular Diagnostic Tools: Innovations and Applications
- Improving Our Understanding of the Impact of Contaminants Stored in Low Permeability Zones
- Best Management Practices for Controlling Munitions Constituents on Operational Ranges
- Classification Applied to Munitions Response—Development
- Classification Applied to Munitions Response—Production Applications
- National and International Regulatory Impacts on DoD Operations: Refining the Goals of DoD's Strategic Plan for 'REACH'

- Next Generation Energetic Materials—Striking a Balance between Performance, Insensitivity, and Environmental Sustainability
- Impact of Particulate Emissions from Gas Turbine Powered Aircraft

### Training Opportunities

- Field Methods to Distinguish between Vapor Intrusion and Indoor Sources of Volatile Organic Compounds
- Estimating Dense Nonaqueous Phase Liquid Source Zone Natural Attenuation
- Thermal Treatment Technologies: Lessons Learned
- Implementing Classification on a Munitions Response Project

### The Sponsors

SERDP and ESTCP are DoD's environmental research programs, harnessing the latest science and technology to improve DoD's environmental performance, reduce costs, and enhance and sustain mission capabilities. SERDP and ESTCP promote partnerships and collaboration among academia, industry, the military Services, and other Federal agencies. Both manage investments in five program areas, each of which focuses on a specific component of DoD's environmental responsibilities—Energy and Water, Environmental Restoration, Munitions Response, Resource Conservation and Climate Change, and Weapons Systems and Platforms. They are independent programs managed from a joint office to coordinate the full spectrum of efforts, from basic and applied research to field demonstration and validation. For more information, visit [www.serdp-estcp.org](http://www.serdp-estcp.org).

### Additional Information

For additional information, please visit [www.serdp-estcp.org/symposium](http://www.serdp-estcp.org/symposium), send an e-mail to [partners@hgl.com](mailto:partners@hgl.com), or call the Symposium Contact Line at 703-736-4548. If you would like to receive the technical program and registration brochure and are not yet in the SERDP/ESTCP mailing database, you can subscribe at [www.serdp-estcp.org](http://www.serdp-estcp.org) or send an e-mail to [partners@hgl.com](mailto:partners@hgl.com). ↴

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## NESDI Program Releases FY10 Year in Review Report

### Annual Report Makes the Case for Success

**THE NAVY ENVIRONMENTAL** Sustainability Development to Integration (NESDI) program has released its annual report to highlight the program’s accomplishments in Fiscal Year (FY) 2010.

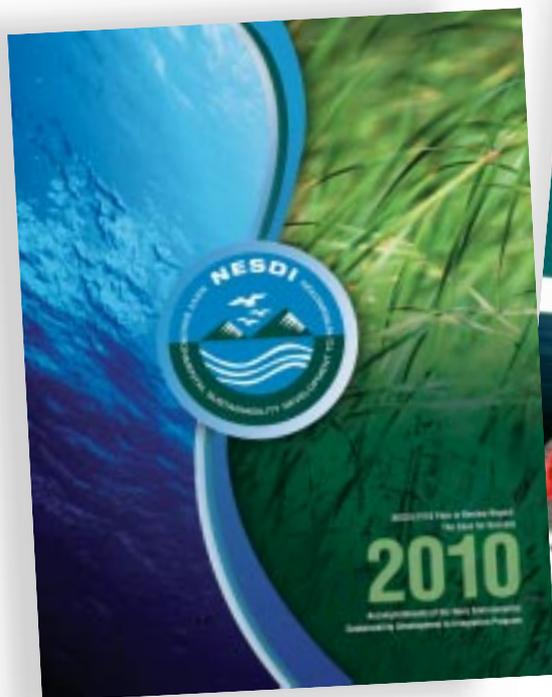
The report, entitled “Accomplishments of the Navy Environmental Sustainability Development to Integration Program in Fiscal Year 2010: The Case for Success,” contains insights into the NESDI projects that were particularly successful in demonstrating the use of an innovative technology or collecting critical information to enhance the efficiency of environmental management programs across the Navy. These projects, presented as case studies in the FY10 report, are presented in the following table:

FY10 accomplishments include not only technical achievements but also programmatic advancements. This report highlights upgrades to the NESDI web site, and introduces program staff, otherwise known as the Technology Development Working Group. Each of these components is key to NESDI’s continuing and timely programmatic operation, field response, and project execution. Behind each of the projects of distinction is a dedicated Principal Investigator and his/her technical staff. They, along with the many others involved in NESDI projects, are committed to providing their knowledge and expertise to help the Navy protect the environment and support the Fleet through efficient and effective execution of environmental programs.

The NESDI program relies on all Navy personnel to help identify environmental concerns and support the implementation of resultant solutions. There are many ways to participate in the NESDI program, including:

- Submitting and validating environmental needs
- Reviewing technologies already in development

PROJECT	DESCRIPTION
Containment and Long-Term Monitoring Strategies for Contaminated Sediment Management	This project is generating a suite of integrated containment and monitoring strategies for remediating contaminated sediments and assessing the long-term effectiveness of remedial actions—including a computerized tool to validate the effectiveness of sediment remediation technologies.
Real-Time Drinking Water Quality Monitoring Technology	The single most effective way to guard against water contamination is early detection. This project provides continuous, real-time water monitoring to ensure that high-quality drinking water is being delivered.
Pollutant Source Tracking	This project helps track contaminants in water to their respective sources, thus simplifying compliance.
Predictive Aquatic Fate & Transport Model	Water bodies listed as impaired must calculate Total Maximum Daily Loads (TMDL) to bring the water body back into compliance with standards. This project utilizes predictive models to accurately calculate TMDLs.
Cadmium Alternatives Navy Specific Testing	Because cadmium acts as an excellent corrosion-preventative, it is widely used on Navy aircraft. However, various current and forthcoming regulations have impacted its use and disposal. This project explores Navy-specific alternatives to cadmium.
Improved Assessment Strategies for Vapor Intrusion	In response to the need to reduce costs and uncertainties associated with vapor intrusion—chemical migration from the ground into a building—a group of experts is identifying existing best practices, knowledge and data gaps, and future research in assessment strategies.
Environmental Effect of Lasers on Biota in the Marine Environment	In an effort to quantify and qualify laser usage in the marine environment, this project set out to determine the extent of underwater laser usage and to outline a means to assess its environmental impact.
Motion Assisted Environmental Enclosure for Capturing Paint Overspray in Dry Docks	This team developed a prototype Motion Assisted Environmental Enclosure to reduce hazardous material discharges generated during hull painting operations in dry docks.
Cleaning Solvents for the 21st Century	As part of the Department of Defense’s response to eliminating the use of volatile organic compounds and hazardous air pollutants, this project researches and validates alternative cleaning solvents and supported the development of a military specification and validated environmentally-friendly alternatives to PRF-680 (a degreasing solvent).



- Supporting transition efforts in your organization or at your installation
- Acting as a Principal Investigator on a NESDI project
- Providing demonstration sites for various NESDI projects
- Staying up-to-date by regularly visiting the program's web site

In the near future, a number of evolving policy issues and research agendas will further focus and define the NESDI program.

1. The merger of energy and environmental practices within the N45 organization
2. Climate change-related initiatives including greenhouse gas emissions, Arctic-related needs and issues associated with the execution of the National Environmental Policy Act
3. Renewable energy research priorities including wind, ocean and solar power, the use and implementation of alternative fuels, waste-to-energy conversion technologies, energy-related environmental planning issues and the intelligent integration of associated technologies into naval operations
4. Technology innovations to reduce waste generation and enhanced management practices at Navy facilities,

including green procurement and sustainable infrastructure

5. Other strategic issues as identified by the range, shipyard and aviation communities

The NESDI program is the Navy's environmental research and development demonstration and validation program, sponsored by the Chief of Naval Operations Energy and Environmental Readiness Division and managed by the Naval Facilities Engineering Command. The mission of the program is to provide solutions by demonstrating, validating and integrating innovative technologies, processes, materials, and filling knowledge gaps to minimize operational environmental risks, constraints and costs while ensuring Fleet readiness.

For a hardcopy of the NESDI program's FY10 and other Year in Review reports, please contact Lorraine Wass at 207-384-5249 or [ljwass@surfbest.net](mailto:ljwass@surfbest.net). An electronic (pdf) version of the report can also be downloaded from the program's web site at [www.nesdi.navy.mil](http://www.nesdi.navy.mil). 

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## CNRSW Institutes a Sustainable Solid Waste Management Program

Successes Achieved Through Innovative Business Practices

**ALTHOUGH IT ENCOMPASSES** traditional recycling, the sustainable solid waste philosophy at Navy Region Southwest moves beyond the concept of just managing the traditional recycling streams of paper, plastic, cardboard, metals, and plastics. It is a holistic approach which examines operations that generate non-hazardous solid waste by developing policy, programs, and processes specifically to address the generating communities' needs for solid waste resource management versus landfill disposal. Institutionalized sustainable solid waste practices recognize that what we throw away and "waste" has value. These practices also assure that the Navy is able to realize and receive the highest possible value from managing commodities rather than paying to dispose of them as waste.

So with support from leadership, the Navy's Southwest Region's Integrated Solid Waste Management Program evolved to become its Sustainable Solid Waste Program (SSWP). According to Leslie McLaughlin, SSWP Director at Navy Region Southwest: "The heart of our approach is to manage solid waste as a resource because it's green for the environment and supports the Navy's mission."

Using the Resource Conservation and Recovery Act (RCRA) definition of solid waste, the SSWP categorizes waste into three manageable Divisions:

1. Municipal Solid Waste Management: The combined management of refuse and recycling.
2. Construction and Demolition (C&D) Debris Management: The diversion of C&D debris through mixed-C&D recycling.
3. Sustainable Solid Waste ASHORE and AFLOAT: Management of non-traditional solid wastes such as:

- Military Industrial Waste Management
- Disaster Debris Management
- Office Furniture Reuse and Redistribution
- Used Motor Oil
- Waste Vegetable Oil
- Agricultural Waste

Our goal is to fully institutionalize both economically and environmentally sustainable solid waste practices throughout all Navy enterprises, both within operational forces Afloat and the Ashore infrastructure.

Institutionalized sustainable solid waste practices recognize that what we throw away and "waste" has value.

The SSWP incorporates the concepts of sustainability into the three divisions by using Environmental Management Systems (EMS) to evaluate processes and develop more environmentally and economically sustainable ways of doing business; thus the concept of institutionalizing practices. As a great example, the successful SSWP in Navy Region Southwest is its C&D debris management program where a partnership was developed with the commercial construction community. Navy construction contract speci-



Naval Base Coronado C&D debris diversion.  
*Christian Dominguez*

fications have been modified to include the sustainable solid waste practices. Policy has been written and promulgated for planning and executing sustainable solid waste practices within all Navy construction, demolition, and alteration projects within the Navy's southwest region. Training is on-going; metrics are monitored to show successes and the economic benefits of recycling. As a result, solid waste resource management of C&D debris has become the standard way of doing business within the Navy Region Southwest construction community and has provided a landfill diversion rate of over 46 percent.

Other examples include:

1. Working closely with facility managers and space allocation committees to incorporate sustainable reuse management of office furniture (cost avoidance of \$4.45M in 2010).
2. Planning organizational moves including realignments associated with Base Realignment And Closure (BRAC) to include office furniture reuse.
3. Forming a partnership with the Emergency Management and Contingency Engineering community to incorporate solid waste lessons learned from 9/11 and Hurricane Katrina.
4. Training and assisting military logistics communities and fleet forces in the proper disposition of items needing demilitarization and special handling.

By using the full range of the SSW toolbox, which contains Municipal Solid Waste Management, C&D Debris Management, and AFLOAT/ASHORE SSW Management functions, the Navy Region Southwest has achieved an impressive 135,000 tons of materials diverted from landfills, providing cost avoidance of \$5.45M during FY10.

In addition, the Navy Region Southwest's SSWP has begun the process of incorporating greenhouse gas (GHG) reduction management. Pilot projects have begun working with the University of Los Angeles to develop the methodology



Supporting the recycling of metal on a large scale.

*Jose Amuchastegui*

for calculation of GHG reductions for existing, traditional recycling operations and looking into evaluating future practices holding GHG reduction potential.

According to Leslie McLaughlin, "Our SSWP is a holistic approach to the management of RCRA non-hazardous solid waste. It uses EMS practices to institutionalize processes that manage solid waste as a resource and promotes a more economically and environmentally feasible way of doing business."

The Navy Region Southwest has achieved an impressive 135,000 tons of materials diverted from landfills.

The Navy Region Southwest's SSWP has received numerous accolades for its innovative models, most recently receiving the "Recycler of the Year Award" from the City of San Diego, and the C&D Debris Management Award from the California Resource and Recovery Association. 📍

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# Commander, Navy Region Mid-Atlantic Installs its First Green Roof at Naval Station Norfolk

## Innovation Filters & Retains Pollutants in Rainwater Runoff

**NAVAL STATION (NS) NORFOLK** installed the first “green roof” in the Navy’s Mid-Atlantic region as part of its continuing efforts to execute energy conservation and environmental protection initiatives.

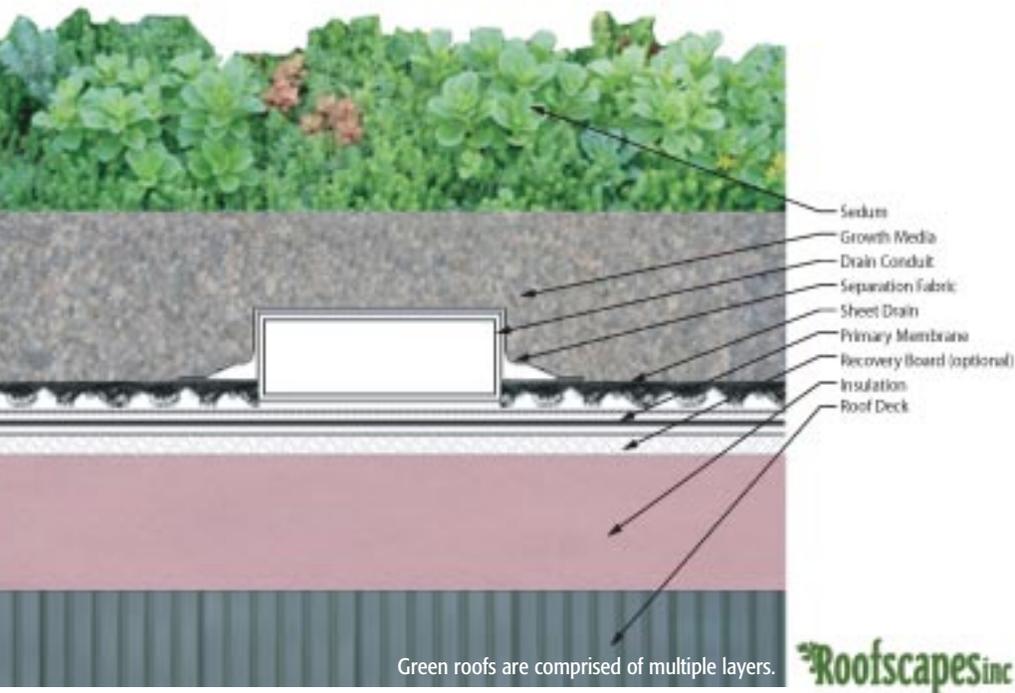
A “green roof” is partially or completely covered with vegetation which is planted over the roof’s waterproofing membrane.

The Naval Legal Services Office at NS Norfolk, Building A-50, was in need of a new roof. As part of the Navy’s goals to conserve energy and reduce pollution, the Naval Facilities Engineering Command Mid-Atlantic chose to install a vegetative green roof in lieu of a traditional roofing system. The \$613,000 project included this Low Impact Development feature that benefits the environment by filtering

and retaining pollutants held in rainwater runoff thus improving the water quality that enters area waterways. Due to its insulating properties, the green roof also helps to reduce energy demand for heating and cooling.

Previously, the building roof was flat and protected with gravel and tar. The roof downspouts drained internally through the building and were tied directly into the storm sewer system. The new design includes a three-inch system, which consists of multiple layers. Typically, a three-inch green roof will retain rain events until the volume exceeds 0.6 inches. On an annual basis, total rainfall runoff quantity is expected to be reduced by 50 percent or more.

In addition to retaining quantities of rainfall runoff, green roofs provide bio-filtration capabilities to improve the quality of that runoff. For facilities with Phase I and Phase II National Pollutant Discharge Elimination System permits, green roofs can satisfy storm water quality requirements. Additionally, using green roofs in urban settings reduces site development costs and increases the commercial space





The newly installed green roof on Building A-50 at NS Norfolk.



The Assistant Secretary of the Navy (Energy, Installations and Environment), The Honorable Jackalyne Pfannenstiel assisted during the ribbon cutting ceremony on 1 November 2010. Pictured (left to right): Jessica Gilden, Jessico, Inc.; The Honorable Jackalyne Pfannenstiel; Kevin White, Architect, NAVFAC Mid-Atlantic; Capt. Mary Jackson, Commanding Officer, NS Norfolk; and CDR Kris Dellapina, Executive Officer, Regional Legal Service Office Mid-Atlantic. Not pictured: Holding the ribbon were Harrison Dudley, NAVFAC Mid-Atlantic construction manager for the project and LCDR Gordon Meek, Assistant Public Works Officer for NAVFAC Mid-Atlantic, Public Works Department Norfolk.

otherwise consumed by traditional storm water management practices such as retention ponds.

Green roofs also assist in reducing reflectance/irradiance of energy back into the atmosphere helping to reduce global warming and the phenomenon of Urban Heat Island

Effect, a condition in which city and suburban developments absorb and trap heat. Anyone who has stood on a scalding parking lot on a hot, summer day has felt one effect of an Urban Heat Island. Urban Heat Islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air

pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality.

Other benefits of green roofs include:

- Reduction in costs associated with heating and cooling. (Green roofs are up to twice as efficient as white reflective roof surfaces in reducing thermal gain.)
- Extended service life of the roof by offering surface protection against Ultraviolet rays and hail.
- Sound reduction inside the building.
- Decrease in air pollutants by filtering what is deposited from the atmosphere and storing the carbon dioxide, which mitigates smog formation.
- Potential reduction in storm water utility fees assessed by local utilities.
- Formation of a living environment that provides habitats for birds and other small animals.
- Offer an attractive alternative to traditional roofs.

The project kick-off ceremony was held on 10 June 2010 and the roof installation was completed in late October 2010. A ribbon cutting ceremony was held on 1 November 2010. The Assistant Secretary of the Navy (Energy, Installations and Environment), The Honorable Jackalyne Pfannenstiel, was onsite to assist Capt. Mary Jackson, Commanding Officer, NS Norfolk, in celebrating this landmark project. ⚓

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# NHB Environmental Stewardship Stretches from Local to Global

## Efforts Include Elimination of Mercury Used in Common Practices

**THE RESULTS OF** Naval Hospital Bremerton's (NHB) on-going conservation efforts and environmental stewardship are being felt over 9,000 miles away, as well as close to home. Efforts include the elimination of mercury in the hospital's common practices as well as tree plantings nearby and in far away places.

On behalf of NHB, 100 trees are being planted in Tanzania courtesy of Trees

Closer to home, the staff of NHB also engaged in tree planting, adding numerous deciduous trees as well as indigenous plants to the new Healing Garden. The project was one of many designed to involve staff members in the celebration of Earth Day 2011 during the week of 18-22 April. Other projects included a restoration of the NHB Nature Trail, as well as a thorough roadside cleanup outside the base's main gate.

conservation and doing a tremendous job," said Capt. Mark E. Brouker, NHB Commanding Officer. "The Making Medicine Mercury Free award, along with the other awards we have received, recognizes and celebrates the effort put in by everyone involved."

The Making Medicine Mercury Free Award was presented to NHB for showing significant effort to become virtually mercury-free, writes Anna

Our goal is to eliminate all mercury from NHB as new alternatives become available.

—Robert Mitchell

for the Future, an agroforestry resource center that works to improve livelihoods and restore degraded lands to sustainable productivity through planting beneficial trees. These trees will become part of a Tanzanian village project that is being implemented to help save the homes and way of life in the country. The fast-growing, permanent, beneficial trees will help to protect the fragile and eroded lands.

During that same week, NHB was presented with the Making Medicine Mercury Free award as part of Practice Greenhealth's 2011 Environmental Excellence Awards. Along with a national award for energy reduction earlier in the year, NHB has also received a local community award for pollution prevention.

"Our Facilities Management department is really at the cutting edge in

Gilmore-Hall, Practice Greenhealth Executive Director, in official correspondence to the command describing the award. "Your achievement serves as an example of what can be accomplished with determination, conviction and teamwork," she wrote.

This award recognizes facilities that have virtually eliminated mercury from their facilities and have demon-



Capt. Mark E. Brouker, NHB Commanding Officer, is presented the Making Medicine Mercury Free Award plaque from Robert Mitchell, NHB Environmental Manager, who accepted the award on behalf of the command at the Practice Greenhealth 2011 Environmental Excellence Awards ceremony.

MC1(SW) C. Obana

stated a commitment to continue to be mercury-free. Award criteria include mercury-free management and purchasing policies, as well as recycling programs. The award is issued by Practice Greenhealth—the nation’s leading membership and networking organization in the health-care community that have made a commitment to sustainable, eco-friendly practices.

NHB’s “Mercury Elimination Plan” starts with an inventory of supplies, materials and equipment containing mercury; their locations, manufacturer and quantity, and an assessment of the feasibility of replacing with mercury-free alternatives as practicable. The plan also includes requirements to ensure mercury-free products are purchased, as well as involvement with maintenance and

construction staff to ensure no mercury items are introduced during repairs or projects.

For example, NHB replaced its fluorescent lamps with green tipped, energy efficient, low mercury lamps. The hospital is now using digital radiology machines that eliminate any mercury products being needed for wet x-ray processing. Dental amalgams used in dental procedures are also captured and recycled.

“Our goal is to eliminate all mercury from NHB as new alternatives become available.” said Robert Mitchell, NHB Environmental Manager. “Fortunately, our industry and manufacturers have responded to this issue, and it’s becoming easier to find safer, cost-effective alternatives. But to further minimize

mercury’s effect, NHB has set standards that go beyond regulatory reductions. It hasn’t been an easy process, but we believe a healthier patient and staff environment is more than worth the effort.”

Other NHB’s achievements that were included in the Practice Greenhealth award submission include the following:

### Energy Use Reduction

Between 2003 and 2009, NHB reduced energy consumption by a total of 21.8 percent equating to recurring annual savings of \$300K. For these efforts, NHB received the 2010 Energy Efficiency Committee (E2C) Award from the American Society for Healthcare Engineering recognizing over 15 percent energy use reduction. This reduction was achieved by replacing older equipment with energy efficient equipment, such as Heat, Ventilation and Air Conditioning units, installing automatic shut-off switches for lights, purchasing equipment with the Energy Star logo, and by turning off unused equipment. NHB is the first military treatment facility in any service to receive the E2C award.

“We have been tracking and attempting to decrease energy consumption for many years,” said Russell Kent, NHB Facilities Manager. “This award is very gratifying since it provides independent recognition of various efforts, which often are unrecognized. In addition to Facilities Department members, this award also recognizes the efforts of the entire NHB staff, since common sense initiatives such as turning off lights and unused equipment, or reporting wasteful conditions are an important element of our success.”

## Green Purchasing

To increase NHB's efficiency in green procurement, the Purchasing Department staff and other clinical staff attended the Department of Defense Course on Affirmative Procurement (Eco Purchasing). Completion of the "Buying Green: A Multifunctional Approach to Pollution Prevention" class was one objective in achieving this goal. When non-clinical supplies are ordered, the purchasing staff checks for green alternatives prior to buying the requested material. As a result, NHB was successful in instituting the use of 100 percent recycled content paper by deleting all other options from the supply catalog.

## Pollution Prevention & Solid Waste Reduction

Working with supply personnel, an evaluation identified that significant amounts of materials were stored in the departments and clinics that were not used and eventually discarded. Supply personnel streamlined the ordering process to reduce the amount of low-demand materials ordered and minimize the quantity of stocked materials. The Supply Department also partnered with a local vendor/distributor to implement a "just in time buying" strategy with the vendor guaranteeing to deliver commonly used supplies within 48 hours of submitting a purchase order. These initiatives resulted in the reduction of waste production from 250 tons to 201 tons between FY2006 and FY2009, a reduction of 19.6 percent, well exceeding the NHB reduction goal of three percent per year.

## Recycling Program Expansion

Between FY2006 and FY2009, NHB increased the quantity of materials recycled from 26 tons to 151 tons, an increase of 580 percent, far exceeding the NHB goal of five percent per year. This increase was achieved through:

1. Expansion of the recycling collection area
2. Installation of an overhead awning to improve the collection capacity for recyclable materials
3. Better training and oversight of construction workers
4. Emphasis of the hospital's sustainability efforts during staff

orientation and bi-monthly leadership forums

## Digital X-Ray

In October 2009, NHB converted 12 of 13 x-ray machines, including dental, to digital technology, dramatically reducing quantities of hazardous material and waste produced by film processing. The hospital's last remaining wet processor is used for asbestos surveillance, which by regulation requires the continued use of film x-rays.

## Construction & Repair

Prior to construction and repair work, a preconstruction risk assess-



Capt. Mark E. Brouker, NHB Commanding Officer, is flanked by Capt. Mark Turner, NHB Executive Officer and NHB Command Master Chief Frank Dominguez, as they get ready to participate in the command's tree planting efforts on the new Healing Garden.

*MC1(SW) C. Obana*



Medical Service Corps officers at NHB take part in the command's active participation in Earth Day by helping to add numerous deciduous trees and indigenous plants to the new Healing Garden.

MC1(SW) C. Obana



Hospital Corpsman First Class Sara Dozier scoops up more discarded rubbish and passes it to HM1 Elizabeth Auckland as part of NHB's First Class Petty Officer Association highway cleanup along Highway 166 in Port Orchard.

Douglas Stutz

ment is performed by a multi-disciplinary group, which included environmental management staff. This assessment allows potential environmental issues to be identified early and a mitigation plan to be developed. Additionally, environmental staff participate in pre-construction planning meetings to identify all affected environmental media and ensure that mitigation plans are included in the construction plans, as well as periodic project status meetings to ensure mitigation plans are adequate and are adhered to.

### Policy Implementation

Newly reported staff, military and civilians, attend mandatory orientation, which includes topics regarding NHB environmental policies, such as:

1. The proper segregation and disposal of wastes
2. Management of hazardous materials
3. Environmental Management System awareness and implementation
4. Pollution prevention goals, objectives and targets
5. Recycling program

Additionally, environmental staff participate in "Environment of Care" rounds, inspecting all spaces at least annually to verify compliance with all environmental programs and to identify trouble areas for additional attention and resolution. ⚓

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# Yokosuka Increases Solid Waste Diversion

## Local Leadership Greatly Contributes to Overall Navy Goals

**THE RECYCLING PROGRAM** at Commander, Fleet Activities Yokosuka (CFAY) has contributed greatly to increases to the Navy's overall solid waste diversion rates.

The Navy is committed to supporting Department of Defense (DoD) and Executive Order (EO) 13514 goals to reduce the amount of trash sent to landfills. This can be accomplished in

Navy's ability to achieve diversion goals set by DoD and EO 13514. CFAY leadership in this area has greatly increased recycling efforts and has contributed significantly to the Navy's overall diversion rate.

With limited capabilities for solid waste disposal in Japan, finding ways to divert solid waste away from landfills and incinerators has become crit-

ical materials and debris. CFAY's Qualified Recycling Program (QRP) provides the foundation for such effective solid waste diversion efforts. Not only is CFAY supporting the Japanese community with its solid waste management challenges, they are also supporting the Navy's goals in meeting EO 13514 diversion requirements.

The Navy is committed to supporting Department of Defense and Executive Order 13514 goals to reduce the amount of trash sent to landfills.

a number of ways such as green procurement (e.g. reduced packaging), reusing items that have remaining service life, and donating items (via the Defense Logistics Agency Disposition Services) to charitable organizations. However, there are always items and materials that simply cannot be eliminated from the waste stream and/or have no further value beyond the inherent scrap value of their wood, metal, paper, or plastic content. These items and materials end up in the waste stream destined for landfills unless action is taken to divert them. Increased recycling will be key to the

ical for Japanese communities and a key challenge for CFAY. In Yokosuka, the Japanese have established and implemented effective solid waste management programs that leverage reuse and recycling as their primary focus. As an integral part of the Japanese community in the cities of Yokosuka, Ikego, and Yokohama, CFAY is committed to pursuing every opportunity to divert solid waste. This commitment to solid waste diversion has resulted in diversion rates of 68 percent for non-hazardous solid waste (up from 24 percent in 2007) and 97 percent of all construction and demo-

When CFAY integrated the QRP into its solid waste management program in 2006, responsibility for the QRP passed from Morale, Welfare, and Recreation (MWR) to the Public Works Department (PWD). This allowed the QRP to expand its recycling efforts to new commodities. By maximizing the removal of all types of recyclable materials from the solid waste stream, not just profitable commodities, the QRP reduced overall disposal costs while at the same time generating profits. Since 2006, the QRP has expanded the program to support the following items:



The CFAY QRP yard is located in the north end of Yokosuka's main base.  
*Norio Yanagawa*



Roy Ito is the QRP Program Manager at Yokosuka.  
*Charles Schulz*

- Plastics (i.e., Polyethylene Terephthalate (PET) bottles, hard plastics, and soft plastics)
- Additional paper-based products (books, magazines, catalogues, mixed paper, and shredded paper)
- Textiles
- Cooking oil
- Rechargeable batteries
- Wood pallets and clean crating material
- Used tires

The QRP also upgraded support services for CFAY tenants through implementation of curb-side collections, call-in services, and direct on-site support for construction and demolition projects. Supporting construction

and demolition projects has resulted in reducing contractors' disposal costs and thereby increasing the savings passed on to PWD customers.

Recognizing the need to incorporate base residents into its recycling program, CFAY initiated a pilot program in March 2008 to collect waste paper from six townhouse units and one apartment tower on Yokosuka Navy Base, supported by volunteers at

each unit. Every Tuesday morning, residents deliver their recyclable waste to a contractor's collection vehicle. The contractor monitors for proper segregation. CFAY now collects books, magazines, catalogues, brochures, regular bond paper, newspaper and corrugated cardboard from these base residents and is set to expand curb-side collections for other base residents with the inclusion of solid waste and recycling as an expressed objective in

their Environmental Management Systems (EMS) program.

The Navy Family Housing Office has also established a "Solid Waste Semi-Source Segregation Program" for single family homes and multiplexes. This encourages personnel living in military family housing to properly segregate "combustible" from "non-combustible" and recyclable solid waste. "Combustible" non-recyclable items are placed in grey containers, while "non-combustible" and recyclable items are placed in blue containers. Contractors take both waste streams to the CFAY Solid Waste Incinerator Plant where the combustible materials are incinerated on site and the non-combustible materials are segregated with recyclable materials delivered to the QRP. Even the ash from the incinerator is recycled at a local cement factory, much of which is reused for the construction of roadways.

Increased diversion rates were also made possible by an aggressive

campaign to improve local processes. This effort included improved data collection through the development of a CFAY Solid Waste Tonnage Report, formatted to support an annual data call from Commander Naval Installations Command (CNIC) and helps identify new recycling opportunities. The QRP also developed a database for

## All About Commander, Fleet Activities Yokosuka, Japan

CFAY IS A 560-acre forward deployed naval base located on Tokyo Bay in the Kanto Plain region of Japan, hosting more than 24,000 active-duty military, Department of Defense civilians and family members. CFAY also has two housing detachments—one at Ikego in nearby Zushi City and another in Negishi, Yokohama. Thanks to a diverse and dedicated workforce, CFAY set the standard in "Service to the Fleet." As the Navy's largest, most strategically important overseas installation, CFAY hosts 82 tenant commands that support operating forces through the Western Pacific, from Hawaii to the Arabian Gulf. The base's primary mission is to support the 11 high operational tempo warships forward deployed to Yokosuka and the Seventh Fleet flagship—the USS BLUE RIDGE. Through open base events, tours and off-base community relations projects, the CFAY community has a strong relationship with its host nation.



The Seventh Fleet command ship USS BLUE RIDGE (LCC 19).  
*Mass Communication Specialist 3rd Class Brian A. Stone*



A new truck scale was procured in 2010 to alleviate the requirement to use a third party scale. This saved employee oversight requirements as well as costs for using the private scale.

*Charles Schulz*

tracking categories of recyclable commodities—both their respective quantities and affiliated revenues. A Statement of Work template was developed and integrated into all new contracts that obligate local contractors to participate in CFAY recycling efforts. In addition, CFAY Instructions were updated to reflect commitment to proper waste disposal and recycling, and solid waste/recycling objectives have been incorporated into the EMS program to pave the way for even more diversion from base residents in the coming months.

Recently, the QRP has seen a substantial amount of solid waste disposal cost savings and revenues

from directly selling its recyclable material. The direct sales generated approximately \$380,000 for the QRP in FY09, and \$568,000 in FY10, despite markets being depressed and still recovering from their collapse in July 2008. These revenues funded a variety of projects benefitting pollution prevention efforts, including a project to reduce hazardous waste by recycling aerosol cans using a depressurizing system. CFAY will save over \$13,000 in annual disposal with more than 10,000 aerosol cans diverted from local landfills. Funding from the QRP also supported a pilot program to evaluate a new technology for bilge water treatment, procurement of spill prevention equipment and safety gear, and

funds for the CFAY 2009 Energy Conservation Awareness Fair. In total, the QRP has provided more than \$500,000 in MWR and operational support over the last two years.

At CFAY, recycling is an “all-hands” effort. It reduces waste, prevents pollution, and conserves natural resources. Like CFAY’s host nation counterparts, everyone is committed to recycling and reusing materials as much as possible. 📍

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## Developments of Interest: January through April 2011

**THIS ARTICLE HIGHLIGHTS** significant environmental regulatory changes and indicators suggesting future changes to the regulatory landscape.

Periodic regulatory reviews mandated by Congress, in particular through the Clean Air Act, are now pointing toward further tightening of existing standards, issuing of new standards, or expanding reporting requirements related to National Ambient Air Quality Standards (NAAQS), Greenhouse Gases, and the National Emission Standards for Hazardous Air Pollutants. Also, under the Toxic Substances Control Act, the U.S. Environmental Protection Agency (EPA) is reviewing and will likely tighten the standards related to lead paint abatement dust clearance. In addition to residential structures, the scope of lead dust standards may expand to include public and commercial buildings and potentially to include related requirements in that context for remodeling work and maintenance painting.

Regulatory and environmental news items of interest (January through April 2011) include the following:

### Air

Review of Secondary National Ambient Air Quality Standards for Nitrogen Oxides and Sulfur Oxides—Final Policy Assessment Document—Notice (15 February 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-02-15/pdf/2011-3382.pdf>

Draft Integrated Science Assessment for Ozone and Related Photochemical Oxidants—Notice and Request for Comments (28 February 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-02-28/pdf/2011-4372.pdf>

Final Document for Review of NAAQS for Particulate Matter—Notice (22 April 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-04-22/pdf/2011-9688.pdf>

Potential Development of Multipollutant Science and Risk Assessments for the Criteria Air Pollutants—Meeting Announcement (27 January 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-01-27/pdf/2011-1773.pdf>

Aerospace Manufacturing and Rework Facilities; National Emission Standards for Hazardous Air Pollutants (NESHAP) Surveys—Information Collection Request (08 February 2011)  
<http://www.epa.gov/ttn/atw/aerosp/aeropg.html>

NESHAP for Gasoline Distribution and Gasoline Dispensing Facilities—Final Rule, Change (24 January 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-01-24/pdf/2011-906.pdf>

Mandatory Reporting of Greenhouse Gases—Reporting Deadline Extended (18 March 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-18/pdf/2011-6417.pdf>

NESHAPs for Area Sources: Industrial, Commercial and Institutional Boilers—Final Rule (21 March 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4493.pdf>

NESHAPs for Major Sources: Industrial, Commercial, & Institutional Boilers & Process Heaters—Final Rule (21 March 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4494.pdf>

Commercial and Industrial Solid Waste Incineration NESHAP—Final Rule (21 March 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4495.pdf>

New Source Performance Standards and Emissions Guidelines for Hospital/Medical/Infectious Waste Incinerators—Final Rule (04 April 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-04-04/pdf/2011-7899.pdf>

Senate Rejects Measure to Stop EPA Greenhouse Gas Regulations—Notice (07 April 2011)  
<http://www.reuters.com/article/2011/04/07/us-usa-climate-congress-idUSTRE7357T220110407>

### Climate Change/Alternative Fuels

National Security Implications of Climate Change for U.S. Naval Forces (10 March 2011)  
[http://www.navy.mil/search/display.asp?story\\_id=59021](http://www.navy.mil/search/display.asp?story_id=59021)

Instructions for Implementing Climate Change Adaptation Planning in Accordance with Executive Order 13514 (09 March 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-03-09/pdf/2011-5405.pdf>

Alternative Fuel Vehicle and Engine After Market Conversions—Final Rule (08 April 2011)  
<http://www.gpo.gov/fdsys/pkg/FR-2011-04-08/pdf/2011-7910.pdf>

### Water/Drinking Water

Proposed Construction Stormwater General Permit—Federal EPA (15 April 2011)  
<http://yosemite.epa.gov/opa/admpress.nsf/3881d73f4d4aaa0b85257359003f5348/4b7e8caa1e88548885257873004d1810!OpenDocument>

Reduction of Lead in Drinking Water Act—Public Law (04 January 2011)

<http://www.gpo.gov/fdsys/pkg/BILLS-111s3874enr/pdf/BILLS-111s3874enr.pdf>

EPA To Develop Regulations for Perchlorate and Volatile Organic Chemicals in Drinking Water—Notice (02 February 2011)

<http://yosemite.epa.gov/opa/admpress.nsf/1e5ab1124055f3b28525781f0042ed40/2470d9783262565e8525782b007395f0!OpenDocument>

EPA Guidance for Enhanced Monitoring of Hexavalent Chromium in Drinking Water (11 January 2011)

<http://yosemite.epa.gov/opa/admpress.nsf/3881d73f4d4aaa0b85257359003f5348/93a75b03149d30b08525781500600f62!OpenDocument>

## Hazardous Materials

Pipeline Safety: Mechanical Fitting Failure Reporting Requirements—Final Rule (01 February 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-02-01/pdf/2011-2081.pdf>

Extremely Hazardous Substances List Threshold Planning Quantities—Proposed Rule (15 April 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-04-15/pdf/2011-9096.pdf>

## National Environmental Policy Act (NEPA) & Planning

Amended Environmental Impact Statement Filing System Guidance (14 January 2011)

<http://edocket.access.gpo.gov/2011/pdf/2011-758.pdf>

Council on Environmental Quality Guidance on Mitigation and Monitoring Commitments in NEPA (21 January 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-01-21/pdf/2011-1188.pdf>

Final Programmatic Environmental Assessment & Draft Finding of No Significant Impact for Small-Scale Wind Energy Projects at U.S. Marine Corps (18 April 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-04-18/pdf/2011-9359.pdf>

Draft Land-Based Wind Energy Guidelines to Minimize Impacts to Fish and Wildlife (18 February 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-02-18/pdf/2011-3699.pdf>

National Offshore Wind Strategy: Creating an Offshore Wind Industry in the United States (07 February 2011)

<http://www.energy.gov/news/10053.htm>

## Other

Potential Addition of Vapor Intrusion Component to the Hazard Ranking System—Notice and Request for Comments (31 January 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-01-31/pdf/2011-1934.pdf>

Assessing the Human Health Impacts of Exposure to Mixtures—Notice (09 March 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-03-09/pdf/2011-5352.pdf>

Change to the Hazardous Substance Release Notification Telephone Numbers—Final Rule (22 February 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-02-22/pdf/2011-3872.pdf>

Identification of Non-Hazardous Secondary Materials That Are Solid Waste—Final Rule (21 March 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-03-21/pdf/2011-4492.pdf>

EPA's Science Advisory Board Developing Lead Dust Hazard Standards—Meeting Announcement (20 April 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-04-20/pdf/2011-9576.pdf>

## Procurement

Defense Federal Acquisition Regulation Supplement: Safety of Facilities, Infrastructure and Equipment for Military Operations Overseas—Final Rule (17 March 2011)

<http://www.gpo.gov/fdsys/pkg/FR-2011-03-17/pdf/2011-6232.pdf>

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## Easy Access

**FOR EASY AND** direct access to many of the web addresses included in this regulatory summary, select the "Digital Currents" link next to the "Regulatory Corner" link from *Currents'* new home on the Internet—the Department of the Navy's new Energy, Environment and Climate Change web site—at <http://greenfleet.dodlive.mil/currents-magazine>.

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# Historic Preservation Continues at Pearl Harbor

## Recent Efforts Include Restoration & Reuse of Historic Warehouse

**PERSONNEL FROM THE** Naval Facilities Engineering Command (NAVFAC) Hawaii completed the demolition of two derelict warehouses on 25 February 2011 as part of an extensive, multi-year historic preservation initiative that included the restoration and reuse of a third historic building.

Many areas of Pearl Harbor are designated part of the U.S. National Historic Landmark program, and the removal of any facility 50 years or older that may have played a role in the December 7th attack at Pearl Harbor is considered significant and requires serious discussions with national and historic preservation experts.

“The broad scope of this project involved many steps before becoming the final product you see today,” said Cmdr. Lore Aguayo, NAVFAC Hawaii assistant regional engineer. Identifying unnecessary buildings six years ago, to remodeling another in 2010, and the subsequent demolition of other buildings in February 2011, this initiative benefits the Navy by consolidating facility requirements and eliminating excess infrastructure to best leverage limited maintenance funds.



NAVFAC Hawaii utilities personnel relocated important electrical and compressed air lines out of warehouse Buildings 146 and 147 in September 2010, prior the buildings' demolition. Special trenches were dug to redirect power lines away from the two warehouses so that surrounding buildings would retain power after their demolition.



Renovations to Building 148, completed on 22 April 2010, retain historic aspects like wood windows, sliding doors, and light fixtures that were salvaged from Buildings 146 and 147 as well as new corrugated roofing and siding that were installed and painted to mimic the original look of the warehouse. The building is now being used as storage and office space by commands at Pearl Harbor.

The broad scope of this project involved many steps before becoming the final product you see today.

—*Cmdr. Lore Aguayo*

In 2005, the Navy identified three warehouses—Buildings 146, 147 and 148—as suitable for demolition under the Department of Defense Programmatic Memorandum of Agreement, which under strict parameters, authorizes the demolition of World War II (1939-1946) temporary structures that are eligible for the National Register of Historic Places.

NAVFAC Hawaii’s Environmental team consulted with members of the Hawaii State Historic Preservation Division

about the project and reached an agreement to demolish Buildings 146 and 147 along Pearl Harbor’s Mike Piers, only after Building 148 was restored to its original character, in accordance with the Secretary of the Interior’s “Standards for Rehabilitation.”

NAVFAC Hawaii awarded a design-build contract to Niking Corporation in September 2008 to restore Building 148 using new and salvaged materials from Buildings 146 and 147 such as wood windows, lighting fixtures, struc-

tural support members, and industrial sliding doors. Renovations and upgrades brought the total cost of the contract work to \$3.3 million.

“The design process initially began with an on-site pre-design meeting between the contractor and Navy architects,” said Jeff Dodge, NAVFAC Hawaii architect. “Discussion covered the scope of the project and selected different historical cues, such as divided light windows and corrugated sidings, that were important to retain.”



Building 147 prior to demolition while utility relocation work is underway.



Building 146 prior to demolition while utility relocation work is underway.



In January 2011, Building 147 is taken down by NAVFAC Hawaii transportation operations personnel in less than one day. However, the separation of recyclable materials and cleanup of the demolition site took weeks to complete.



Building 146 is quickly crushed by a NAVFAC Hawaii equipment operator in February 2011. Comprised of mostly metals and wood, segregation of recyclable materials was executed to reduce construction debris transported to a local landfill.

After identifying unsalvageable portions of Building 148, Niking installed new corrugated metal roofing and siding and painted the panels in a style that mimics the original look of the building (circa 1941).

The interior also received an overhaul, starting with its electrical and lighting system that was brought up to code, ultimately earning the building a Leadership in Energy and Environmental Design Silver certification when renovations were complete in April 2010.

This allowed NAVFAC Hawaii to begin remediation, abatement and finally demolition of the remaining buildings, reducing the Navy's inventory of underutilized buildings and their costs, while Building 148 began serving as secured storage and office space for the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility.

Remediation crews suited up in late April 2010 to begin abatement on floor tiles laden with asbestos in Buildings 146 and 147. After a short delay in June due to the 2010 Rim of the Pacific exercises, work continued until August. Approximately 90 cubic yards of material was removed from the two buildings.

In September 2010, an extensive process of detaching and rerouting utility and air compressor lines to nearby buildings got underway. Later in the fall, transportation equipment operators and truck drivers began planning how they would execute the building's demolition work.

Each of the two warehouse structures took one day to demolish, Building 147 in January 2011 and Building 146 in February 2011. Once the warehouses were down, the crew spent two weeks segregating and hauling construction debris off-site to clear the footprint area for each building. Approximately 60 loads of recyclable metals were transported to Schnitzer Steel Hawaii and Lennox Metals at Campbell Industrial Park. One hundred twenty-five loads of other construction debris were taken to PVT Land Company in Nanakuli. [↴](#)

*Photos by Denise Emsley*

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